MACEDONIA PLANNING COMMISSION
MEETING AGENDA
APRIL 21, 2025

Location: Macedonia City Hall
Council Chambers
9691 Valley View road
Macedonia, Ohio 44056

Time: 5:30 P.M.

Call to Order:

Roll Call:

- Mr. Westbrooks
- Mr. Roberts
- Mr. Cox
- Mr. Wallenhorst
- Ms. Meske

Approval of the March 17, 2025 Public Hearing minutes.
Approval of the March 17, 2025 Planning Commission minutes.

Agenda Items:

1) Mr. Migliorini is proposing a lot consolidation of parcels located at 9764 Valley View Rd.

   Joseph Migliorini
   8586 Crow Dr. Suite 210
   Macedonia, Oh 44056
   jmigliorini@att.net

2) Mr. Certo with DSC Architects is proposing final approval for an addition to Specialty Lubricants located at 8300 Corporate Park Dr.

   Jeff Certo
   DSC Architects
   401 Front St.
   Berea, Oh 44017
   440-835-3957
   jcerto@dscarchitects.com

3) Mr. Extine with Geise Construction is proposing final site plan approval of a new building for Peak Nano located at 8854 Valley View Rd.

Trevor Extine
Geis Construction
10020 Aurora – Hudson Rd.
Streetsboro, Oh 44241
330-701-3405
trevor@geisco.net

Miscellaneous:

Adjournment:

Continued Items:

- 09/16/2024 Proposed multi-tenant signage for Coblentz Homes located at 585 E. Highland Rd.
- 11/18/2024 Proposed outdoor storage located at 480 Highland Rd.
- 11/18/2024 Proposed lot split for the Knights Inn located at 240 E. Highland Rd.
- 03/17/2025 Proposed signage and site improvements for Omega Painting located at 9270 Valley View Rd.
- 03/17/2025 Proposed final site plan for a new building for Nordonia Landscape located at 1325 E. Highland Rd.

The next regularly scheduled meeting is set for May 19, 2025
All requests & documentation for the Planning Commission must be submitted by April 25, 2025
Tabled items will be removed after one (1) year of inactivity.

City of Macedonia
Building, Engineering, Zoning & Planning Dept.

9691 Valley View Road • Macedonia, Ohio 44056
330 / 468-8360 • Fax: 330 / 468-8396

APPLICATION FOR HEARING BEFORE THE MACEDONIA PLANNING COMMISSION

ALL PLANS FOR SUBMITTAL MUST BE FOLDED. NO ROLLED PLANS WILL BE ACCEPTED.

DATE OF APPLICATION: 3-21-25

LOCATION OF PROPERTY INVOLVED: 9764 VALLEY VIEW

NATURE OF REQUEST: LOT CONSOLIDATION

APPLICANT NAME & PHONE: JOSEPH MIGLIORINI

APPLICANT ADDRESS: 8536 CROW DR. SUITE 210 MACEDONIA, OH 44056

APPLICANT EMAIL ADDRESS: JMIGLIORINI@ATT.NET

APPLICANT SIGNATURE: J. Migliorini

NOTES:
CONSOLIDATING PARCELS FROM MCCANN INVESTMENT, LLC TO MACEDONIA PROPERTIES, LLC

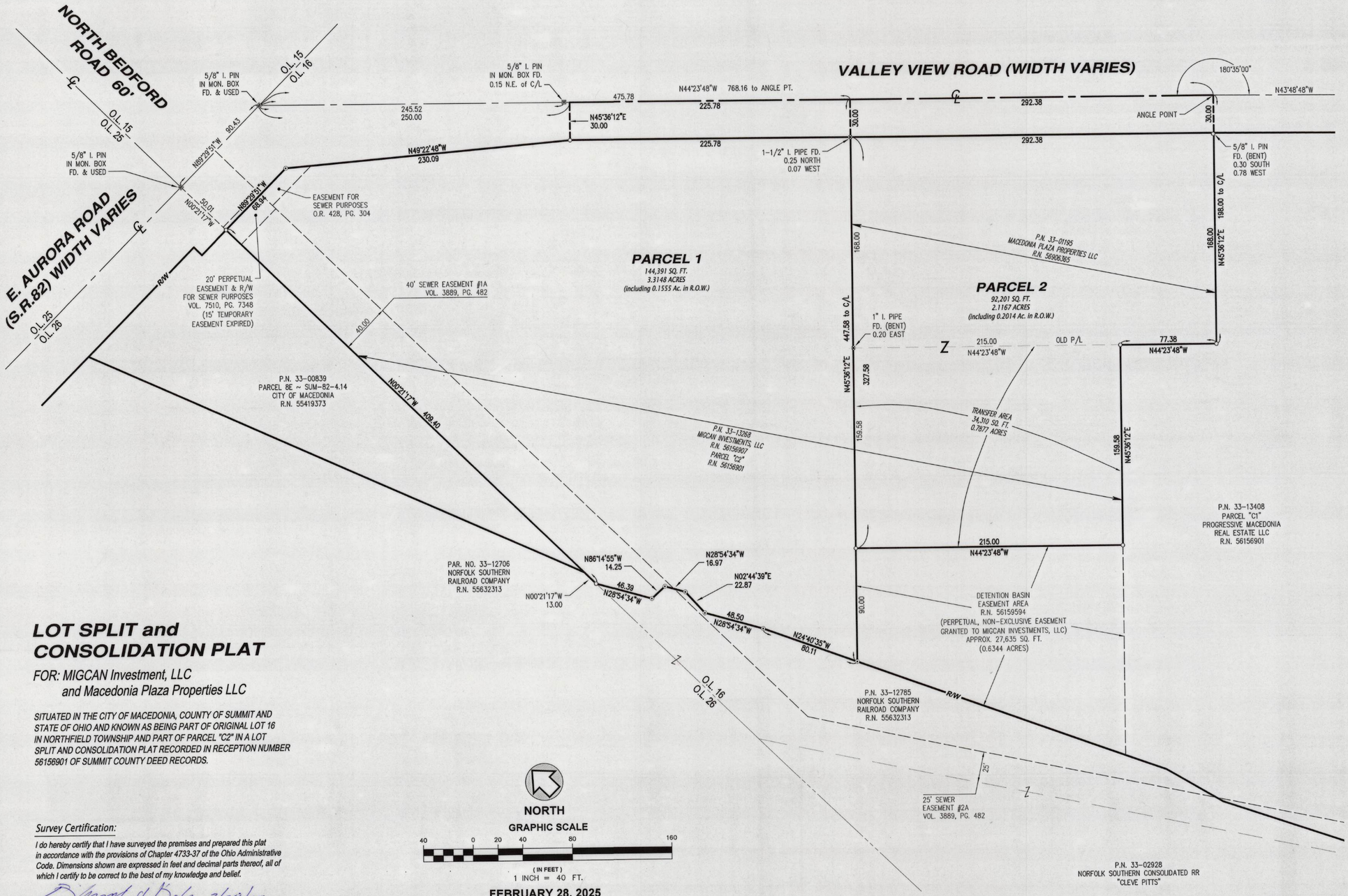
MEETING DATE: APRIL 21, 2025 **FILING FEE** $75.00 **ESCROW REQUIRED** $1,620.00

Deadline for submitting applications is 21 DAYS prior to meeting date. When applying for a hearing, please furnish THREE sets of sketches, maps, drawings, descriptions, or photographs of the property in question. THREE copies of the site plan are required. PLANS MUST BE FOLDED, NOT ROLLED. No rolled plans will be accepted. 11x17 is acceptable for Planning Commission review only. If new construction is involved, a landscape and signage plan should be prepared. This application is for the purpose of scheduling and planning the time of the Macedonia Planning Commission. It is the Commission's desire to serve each applicant with a minimum of delay.

PLEASE NOTE: PERMIT FEES ARE NOT INCLUDED IN THE FILING FEE. ADDITIONAL FEES MAY BE REQUIRED.
The Macedonia Planning Commission meets on the 3rd Monday of each month.

Make checks payable to:
City of Macedonia

Please submit plans to:
Macedonia Building Department
9691 Valley View Rd.
Macedonia, OH 44056



LOT SPLIT and CONSOLIDATION PLAT

FOR: MIGCAN Investment, LLC
and Macedonia Plaza Properties LLC

SITUATED IN THE CITY OF MACEDONIA, COUNTY OF SUMMIT AND STATE OF OHIO AND KNOWN AS BEING PART OF ORIGINAL LOT 16 IN NORTHFIELD TOWNSHIP AND PART OF PARCEL "C2" IN A LOT SPLIT AND CONSOLIDATION PLAT RECORDED IN RECEPTION NUMBER 56156901 OF SUMMIT COUNTY DEED RECORDS.

Survey Certification:

I do hereby certify that I have surveyed the premises and prepared this plat in accordance with the provisions of Chapter 4733-37 of the Ohio Administrative Code. Dimensions shown are expressed in feet and decimal parts thereof, all of which I certify to be correct to the best of my knowledge and belief.

3/28/25

Richard J. Kole, Registered Land Surveyor #7889

Basis of Bearings:

State Plane Grid North, NAD 83 (2011), Ohio North Zone. Tied by GNSS to O.D.O.T. VRS.

STATE OF OHIO · RICHARD J. KOLE · 7889 · REGISTERED PROFESSIONAL SURVEYOR

NORTH

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

1 INCH = 40 FT.

FEBRUARY 28, 2025

LEGEND:	
○	5/8" Iron Pin Found and Used
⊙	5/8" Capped "Sheehy-7849" Iron Pin Found and Used
⊗	Iron Pipe Found and Used
■	5/8" Iron Pin Monument Found and Used

Survey References:

Deed of Record

Tax Maps

Lot Split and Consolidation Plat for MIGCAN Investments & Joseph Migliorini by Chagrin Valley Egineering, Ltd. Doc. No. 56156901 (9/16/2015)

Acceptance

(P.No. 33-13268 ~ Parcel "C2")

We, the undersigned owners of the land shown hereon, do hereby assent to and adopt this lot split and consolidation plat of the same.

MIGCAN Investments, LLC, an Ohio limited liability company

_____

Title _____ Print Name _____

State of Ohio)
) S.S.
County of _____)

Before me, a notary public in and for said county and state, personally appeared the above named _____ member of MIGCAN Investments, LLC, the corporation which executed the foregoing instrument, who acknowledge that he did sign said instrument as such member in behalf of said Corporation and by the authority of its board of directors; and that said instrument is his free act and deed individually and as such member and the free and corporate act and deed of said Corporation.

In witness, whereof, I have hereunto set my hand and official seal at _____, Ohio, this _____ day of _____, 2025.

_____
Notary Public

My commission expires _____.

Acceptance

(P.No. 33-01195)

We, the undersigned owners of the land shown hereon, do hereby assent to and adopt this lot split and consolidation plat of the same.

Macedonia Plaza Properties LLC, an Ohio limited liability company

_____

Title _____ Print Name _____

State of Ohio)
) S.S.
County of _____)

Before me, a notary public in and for said county and state, personally appeared the above named _____, member of Macedonia Plaza Properties LLC, the corporation which executed the foregoing instrument, who acknowledge that he did sign said instrument as such member in behalf of said Corporation and by the authority of its board of directors; and that said instrument is his free act and deed individually and as such member and the free and corporate act and deed of said Corporation.

In witness, whereof, I have hereunto set my hand and official seal at _____, Ohio, this _____ day of _____, 2025.

_____
Notary Public

My commission expires _____.

Approvals

Planning Commission

This plat is accepted and approved by the Planning Commission of the City of Macedonia, Ohio this _____ day of _____, 2025.

_____
Kevin Westbrooks, Chairman, City of Macedonia

City Engineer

This plat is accepted and approved by the City Engineer of the City of Macedonia, Ohio this _____ day of _____, 2025.

_____
Joe Gigliotti, P.E., City Engineer

Prepared by:

RMKOLE & ASSOC. CORP.
surveyors · consultants · planners · utilities · esp

5316 Ridge Road ~ Cleveland, Ohio 44129
Phone 440.885.7137 ~ Fax 440.885.7139
www.kolesurvey.com
File No. 24264 LSC

CHAGRIN VALLEY ENGINEERING, LTD.
Creative Engineers. Intelligent Solutions.

M E M O

To: Mayor and Planning Commission

From: Joe Gigliotti, P.E.

Date: 04-02-25

Re: Plan Review Comments: 9764 Valley View Road lot consolidation plat

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The plat for the above named item, dated 03-28-25, has been reviewed. The following comments are offered:

- The plat does not increase the number of parcels, and does not create any new non-conforming or land-locked parcels. Previously, the Migcan parcel was split between zoning districts. This plat will result in all of Parcel 1 falling within the B-1 district, and all of Parcel 2 falling within the B-O district.
- Planning Commission approval is recommended for this plat.

22999 Forbes Road, Suite B • Cleveland, Ohio 44146-5667 • Phone: 440.439.1999 • Fax: 440.439.1969 • www.cvelimited.com

Memorandum

TO: Nicholas Molnar, Mayor
and Macedonia Planning Commission

FROM: Brian M. Frantz, AICP

SUBJECT: Lot Consolidation – Parcels 33-13268 (9804-9828 Valley View Road) and 33-01195 (9764 Valley View Road)

DATE: April 6, 2025

I have reviewed an application (and lot consolidation plan) dated March 21, 2025 in connection with this request and offer the Planning Commission with the following comments for their consideration:

Request

The applicant is proposing to combine a portion of Parcel 33-13268 (~35,000 sq.ft.) with existing Parcel 33-01195 (9764 Valley View Road). The consolidation results in Parcel 33-01195 (9764 Valley View Road) enlarging to 2.1167 acres and Parcel 33-13268 (9804-9828 Valley View Road) reducing in size to 3.3148 acres.

Analysis

Lot splits and consolidations are subject to the requirements of the Subdivision Regulations. Specifically, Section 1117.03 (b) details the standards for lots. This proposal complies with the lot requirements of the Zoning Code, as well as the standards set forth in Section 1117.03 (b). Specifically, the width to depth (less than 2:1) is a desirable ratio identified in the regulations.

For the purposes of documentation, Parcel 33-01195 (9764 Valley View Road) is zoned R-1 Residence District and Parcel 33-13268 (9804-9828 Valley View Road) is zoned B-1 Convenience Business District. The approximate 35,000 square feet being removed from Parcel 33-13268 is zoned R-1 Residence District and will align with the zoning of Parcel 33-01195 (9764 Valley View Road) with this consolidation.

Conclusion

At this time, I recommend this proposal be approved. Please do not hesitate to contact me with any questions.

March 28, 2025

DSC ARCHITECTS
401 FRONT STREET
BEREA, OHIO 44017
PHONE: 440.835.3957
mail@dscarchitects.com

City of Macedonia
Planning Commission
9691 Valley View Road
Macedonia, OH 44056
sroganish@macedonia.oh.us

Re: Specialty Lubricants Corp. Proposed Expansion
8300 Corporate Park Drive, Macedonia, Ohio

Following the preliminary planning approval of the proposed expansion project for the existing Specialty Lubricants manufacturing and office facility, we are pleased to submit this letter for final planning approval. We have incorporated the recommended modifications of this board to further align the project with the city's planning goals.

The revised plans reflect the following updates based on your feedback:

- **Window Elimination and Wall Louvers**: The originally proposed windows have been removed, and wall louvers similar to those on the existing building have been added to maintain a consistent exterior appearance.
- **Outdoor Storage Improvements**: The outdoor storage area will now be enclosed within a board-on-board fence, enhancing both security and visual screening.
- **Landscaping Adjustments**: Modifications have been made to the landscaping plan replacing the Colorado Blue Spruce with Vanderwolf Pines, and Barberry with Nine Barks as requested, providing improved site aesthetics and alignment with city recommendations.

Additionally, we are pleased to note that the 113-car parking variance was granted by the Board of Zoning Appeals at the March 19, 2025, meeting.

These adjustments maintain the overall project intent while ensuring the design remains complementary with the existing structure. The addition will continue to feature precast concrete wall panels with a consistent color scheme to the existing facility. Furthermore, the recessed docks, drive-in overhead door, and stormwater management basin remain integral to the design, ensuring efficient operations and environmental responsibility.

We are committed to delivering a project that benefits the community and supports the continued growth of Specialty Lubricants operations. Thank you for your consideration. Please feel free to contact me if you have any questions or require further information.

Sincerely,

Jeff M. Certo
DSC Architects

City of Macedonia
Building, Engineering, Zoning & Planning Dept.
The Crossroads of Northeast Ohio
9691 Valley View Road • Macedonia, Ohio 44056
330 / 468-8360 • Fax: 330 / 468-8396

APPLICATION FOR HEARING BEFORE THE MACEDONIA PLANNING COMMISSION

ALL PLANS FOR SUBMITTAL MUST BE FOLDED. NO ROLLED PLANS WILL BE ACCEPTED.

DATE OF APPLICATION: MARCH 28, 2025

LOCATION OF PROPERTY INVOLVED: 8300 CORPORATE PARK DRIVE

NATURE OF REQUEST: 49,600 SQFT. BUILDING ADDITION

APPLICANT NAME & PHONE: JEFF CERTO, DSC ARCHITECTS (440)835-3957

APPLICANT ADDRESS: 401 FRONT STREET, BEREA, OH 44017

APPLICANT EMAIL ADDRESS: jcerto@dscarchitects.com

APPLICANT SIGNATURE:

NOTES:

MEETING DATE: _____ **FILING FEE** _____ **ESCROW REQUIRED** _____

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Make checks payable to:
City of Macedonia

Please submit plans to:
Macedonia Building Department
9691 Valley View Rd.
Macedonia, OH 44056

RIVERSTONE
LAND SURVEYING • ENGINEERING • DESIGN

January 17, 2025

Jerry Gruszewski
Premier Development Partners, LLC
5605 Granger Road, Suite 100
Independence, Ohio 44131

Re: Specialty Lubricants, 8300 Corporate Park Drive
Preliminary Stormwater Management

Dear Mr. Gruszewski,

The Riverstone Company has reviewed the proposed site plan for the facility expansion at the Specialty Lubricants site at 8300 Corporate Park Drive in the City of Macedonia. The proposed improvements include a 49,000+ sf building addition and pavement expansion to provide truck access to the new loading docks and drive in door. The improvements will increase the amount of impervious area on site and will disturb more than 1 acre of land therefore detention and treatment of the water quality volume will be required.

The water quality volume required to be treated is determined by the Ohio EPA Construction General Permit and is based on the disturbed area of the project. Based on the site plan, Riverstone is anticipating a disturbance of about 3 acres with about 1.90 acres of impervious area after construction. This would require the treatment of about 6,000 cubic feet of stormwater.

The detention requirements are based on the critical storm which compares the runoff from the predevelopment site conditions and the post development site conditions. Based on the current site plan, Riverstone anticipates this being a 10 year critical storm. This would mean that storms at or below the critical storm (1, 2, 5 and 10 year events) would be held to the current runoff from the 1 year storm. Storms larger than the critical storm (25, 50 and 100 year events) would require the storm runoff to be reduced to the existing runoff for the corresponding storm event. The preliminary calculations show an approximate detention volume of about 19,000 cubic feet for the 100 year event.

3800 Lakeside Avenue Suite 100
Cleveland, Ohio 44114
Phone 216•491•2000 • Fax 216•491•9640
Internet • www.riverstonesurvey.com

RIVERSTONE
LAND SURVEYING • ENGINEERING • DESIGN

Detention and water quality treatment will be handled in the new retention basin proposed near Corporate Park Drive. Storm sewers will be used to collect runoff from the building and paved area and convey the stormwater to the new retention basin. The basin will detain the water quality volume and release it over a 48 hour period. Storm water above the required water quality volume will be detained and released to meet the requirements of the critical storm.

The proposed basin is currently planned to be a wet retention basin that will always hold water. During storm events the water level will rise but will recede over the following 48 hours after the storm and return to the water level before the storm event.

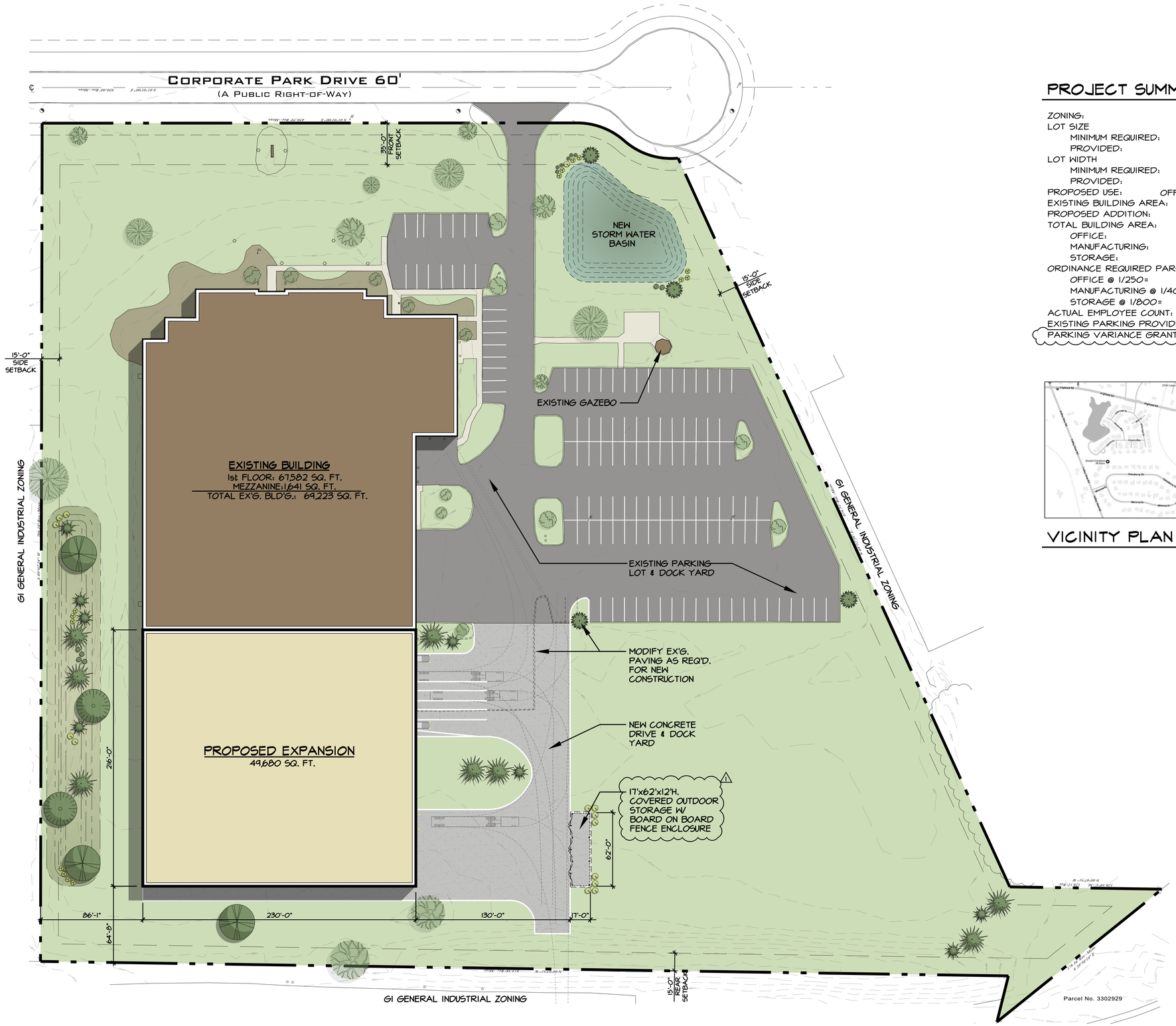
Should you have any questions pertaining to this letter, please contact The Riverstone Company.

Very truly yours,
THE RIVERSTONE COMPANY

Jeffrey A. Jardine P.E.

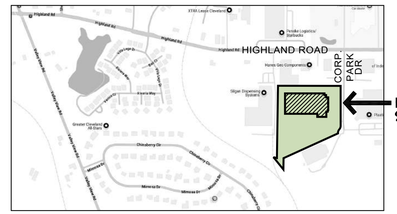
JAJ / jaj

3800 Lakeside Avenue Suite 100
Cleveland, Ohio 44114
Phone 216•491•2000 • Fax 216•491•9640
Internet • www.riverstonesurvey.com



PROJECT SUMMARY

ZONING:	GI - GENERAL INDUSTRIAL
LOT SIZE	
MINIMUM REQUIRED:	2 ACRES
PROVIDED:	11.3 ACRES
LOT WIDTH	
MINIMUM REQUIRED:	150'
PROVIDED:	535'
PROPOSED USE:	OFFICE/MANUFACTURING/STORAGE
EXISTING BUILDING AREA:	69,223 SQ. FT.
PROPOSED ADDITION:	49,680 SQ. FT.
TOTAL BUILDING AREA:	118,903 SQ. FT.
OFFICE:	10,146 SF
MANUFACTURING:	47,291 SF
STORAGE:	61,466 SF
ORDINANCE REQUIRED PARKING:	236 SPACES
OFFICE @ 1/250=	40.6
MANUFACTURING @ 1/400=	118.2
STORAGE @ 1/800=	76.8
ACTUAL EMPLOYEE COUNT:	85 PEOPLE
EXISTING PARKING PROVIDED:	123 SPACES
PARKING VARIANCE GRANTED 3/19/25:	113 SPACES



VICINITY PLAN

PREMIER
Development Partners
5605 Granger Road
Cleveland, OH 44131
Phone: (216)341-1200

⚠FINAL PLANNING: MARCH 28, 2025

SITE PLAN
0 40'

SPECIALTY LUBRICANTS

PROPOSED EXPANSION
8300 CORPORATE PARK DRIVE, MACEDONIA, OHIO

24.069

SP.1

DSC ARCHITECTS
401 FRONT STREET
BEREA, OHIO 44017
PHONE: 440.835.3957
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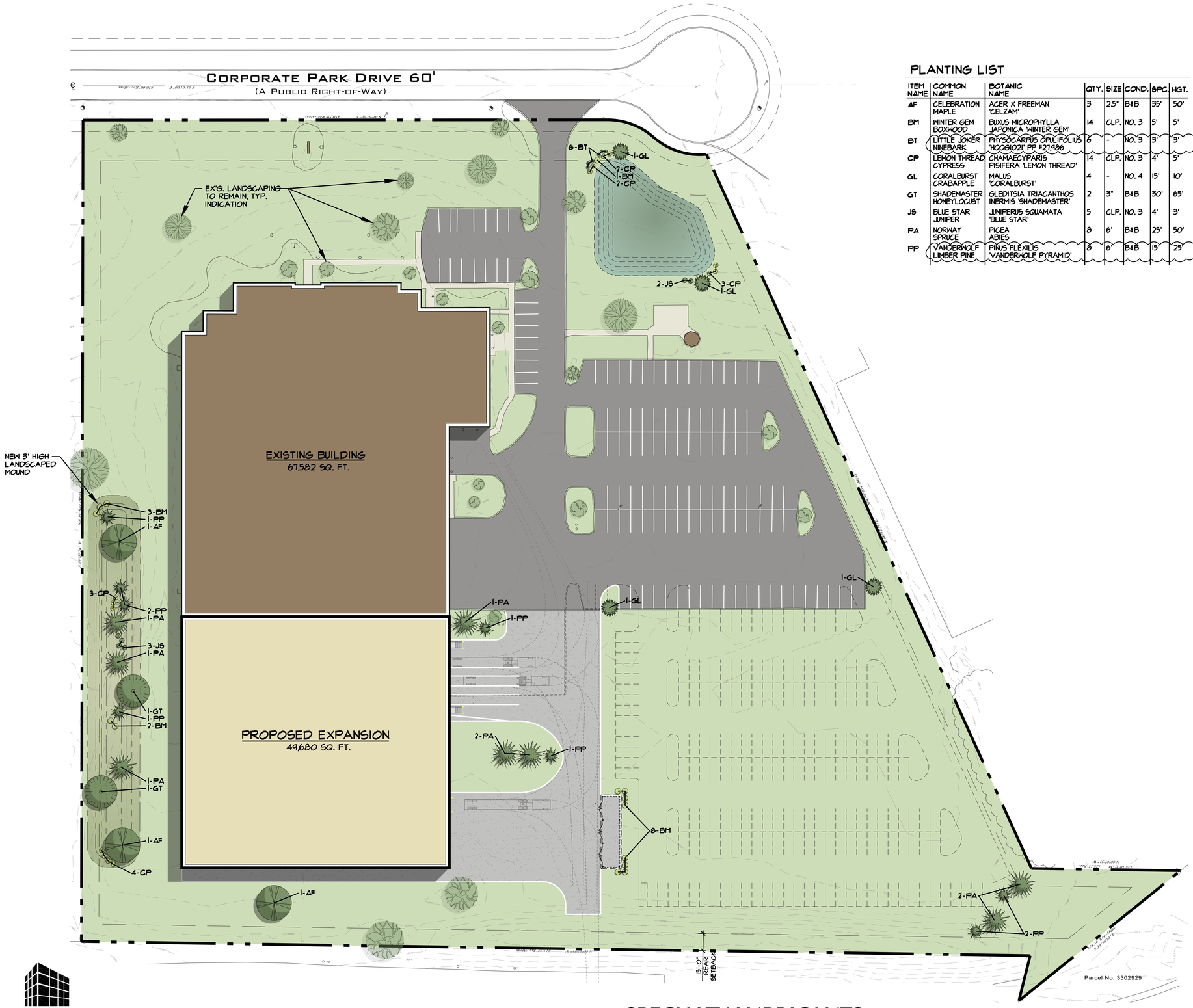
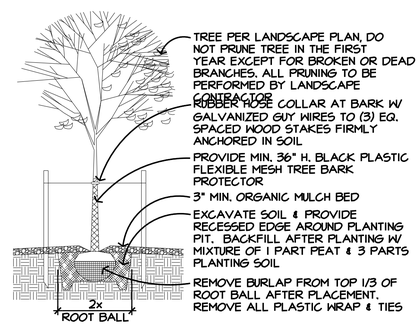


PLANTING LIST

ITEM NAME	COMMON NAME	BOTANIC NAME	QTY.	SIZE	COND.	SPC.	HGT.
AF	CELEBRATION MAPLE	ACER X FREEMAN 'CELZAM'	3	2.5"	B&B	35'	50'
BM	WINTER GEM BOXWOOD	BUXUS MICROPHYLLA JAPONICA 'WINTER GEM'	14	CLP.	NO. 3	5'	5'
BT	LITTLE JOKER NINEBARK	PHYSOCARPUS OPULIFOLIUS 'MOOSIO21' PP #21,486	6	-	NO. 3	3'	3'
CP	LEMON THREAD CYPRESS	CHAMAECYPARIS PISIFERA 'LEMON THREAD'	14	CLP.	NO. 3	4'	5'
GL	CORALBURST CRABAPPLE	MALUS 'CORALBURST'	4	-	NO. 4	15'	10'
GT	SHADEMASTER HONEYLOCUST	GLEDITSIA TRIACANTHOS INERMIS 'SHADEMASTER'	2	3"	B&B	30'	65'
JS	BLUE STAR JUNIPER	JUNIPERUS SQUAMATA 'BLUE STAR'	5	CLP.	NO. 3	4'	3'
PA	NORWAY SPRUCE	PICEA ABIES	8	6'	B&B	25'	50'
PP	VANDERWOLF LIMBER PINE	PINUS FLEXILIS 'VANDERWOLF PYRAMID'	8	6'	B&B	15'	25'

LANDSCAPE NOTES

1. LANDSCAPING INDICATED REPRESENTS GENERAL CONCEPT OF LANDSCAPING TO BE PROVIDED. LANDSCAPE CONTRACTOR MAY ALTER SELECTED PLANTINGS, QUANTITIES AND PLACEMENT AS REQUIRED DUE TO AVAILABILITY & SOIL/EXPOSURE CONDITIONS. LANDSCAPE CONTRACTOR IS TO PROVIDE LANDSCAPING IN COMPLIANCE WITH APPLICABLE REQUIREMENTS OF ANSI Z60.1 "AMERICAN STANDARD FOR LANDSCAPE STOCK," AND OTHER AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS. ALL PLANTING OPERATIONS SHALL ADHERE TO AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS.
2. CALIPER MEASUREMENTS ARE TO BE TAKEN 6" ABOVE NORMAL GRADE FOR TREES LESS THAN 6" IN CALIPER.
3. DELIVER ALL PLANT MATERIALS AFTER PREPARATIONS HAVE BEEN COMPLETED, AND INSTALL IMMEDIATELY. IF PLANTING IS DELAYED MORE THAN 6 HOURS, KEEP ROOTS MOIST, AND STORE OUT OF SUN AND WIND. DO NOT PRUNE BEFORE DELIVERY. PROTECT PLANTS FROM SUNSCALD, DRYING, WHIPPING, AND OTHER HANDLING DAMAGE. DO NOT DESTROY NATURAL SHAPES THROUGH BENDING OR BINDING. DO NOT DROP PLANTS DURING DELIVERY.
4. INSTALLATIONS OF PLANTINGS, LAWN, AND MULCHES TO BE PER STANDARD INDUSTRY PRACTICE. PROVIDE FREE-FORM SHAPED ORGANIC MULCH BED AT ALL PLANTING AREAS. AT ISOLATED TREES PROVIDE MIN. 5' DIAMETER ORGANIC MULCH BED SURROUNDING TRUNKS OF TREES IN LAWN AREAS.
5. MULCH TO BE DOUBLE SHREDDED HARDWOOD MULCH, 3" DEPTH AT BEDS. MULCH MUST BE 1-2 YEAR AGED AND MAY NOT COME FROM SHREDDING TREE MATERIAL TAKEN FROM SITE. PROVIDE PERVIOUS WEED BARRIER (TYPAR OR EQUIV.) AT UNPLANTED AREAS.
6. LOCATIONS ON PLAN TO SERVE AS A GUIDE. SLIGHT RELOCATION MAY OCCUR DUE TO FIELD CONDITIONS & TO PROVIDE THE MOST AESTHETIC ARRANGEMENT.
7. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR CLEANUP ASSOCIATED WITH LANDSCAPE CONSTRUCTION. LEGALLY DISPOSE OF ALL SURPLUS AND WASTE MATERIALS OFF OF THE OWNER'S PROPERTY.
8. CONTRACTOR SHALL WARRANTY ALL PLANT MATERIALS INSTALLED FOR A PERIOD OF ONE YEAR FROM INSTALLATION. CONTRACTOR IS RESPONSIBLE FOR REGULAR WATERING OF PLANTINGS FOR A PERIOD OF ONE GROWING SEASON TO ALLOW FOR ROOT ESTABLISHMENT. PLANTS THAT ARE UNHEALTHY OR MORE THAN 25% DEAD SHALL BE REPLACED BY CONTRACTOR AT NO ADDITIONAL CHARGE TO OWNER.
9. CONFIRM LOCATIONS OF ALL UTILITIES & SUBSURFACE DRAIN LINES PRIOR TO PLANT INSTALLATION.
10. TOPSOIL MUST BE BACK FILLED TO PROVIDE POSITIVE DRAINAGE OF THE LANDSCAPE AREA.
11. ALL PLANTING BEDS TO BE FERTILIZED WITH 10-10-10 OR EQUAL.
12. ALL NON-LANDSCAPED AREAS TO BE SEEDED WITH PREMIXED LOW MAINTENANCE LAWN, "NO MOW" MIX BY OHIO PRAIRIE NURSERY OR EQUAL.
13. PROVIDE IRRIGATION SYSTEM AT ALL NEW LANDSCAPED BEDS. SYSTEM TO BE DESIGNED BY IRRIGATION SYSTEM MANUFACTURER FOR SITE CONDITIONS.
14. CONTRACTOR TO PROVIDE PROTECTION FOR EXISTING TREES TO REMAIN (IF ANY), FIELD VERIFY:
    - ERECT ORANGE CONSTRUCTION FENCES BENEATH TREE DRIPLINE
    - ELIMINATE CONSTRUCTION TRAFFIC WITHIN 1' FOR EVERY 1" OF TRUNK DIAMETER OR TO TREE DRIPLINE, WHICHEVER IS GREATER



TREE PLANTING DETAIL

SCALE: N.T.S.

PREMIER Development Partners
5605 Granger Road
Cleveland, OH 44131
Phone: (216)341-1200

⚠FINAL PLANNING: MARCH 28, 2025

LANDSCAPE PLAN
0 40'

SPECIALTY LUBRICANTS

PROPOSED EXPANSION
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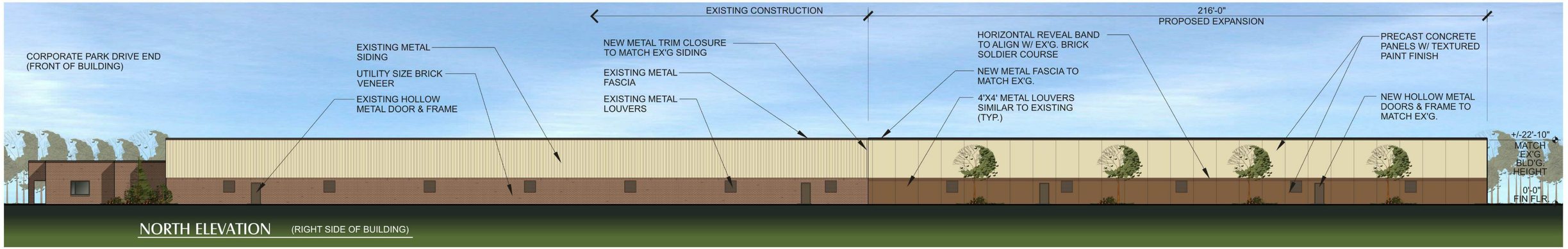
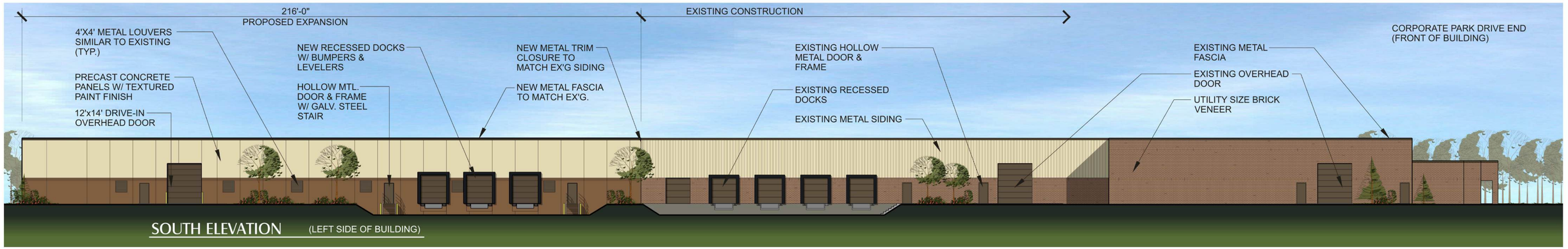
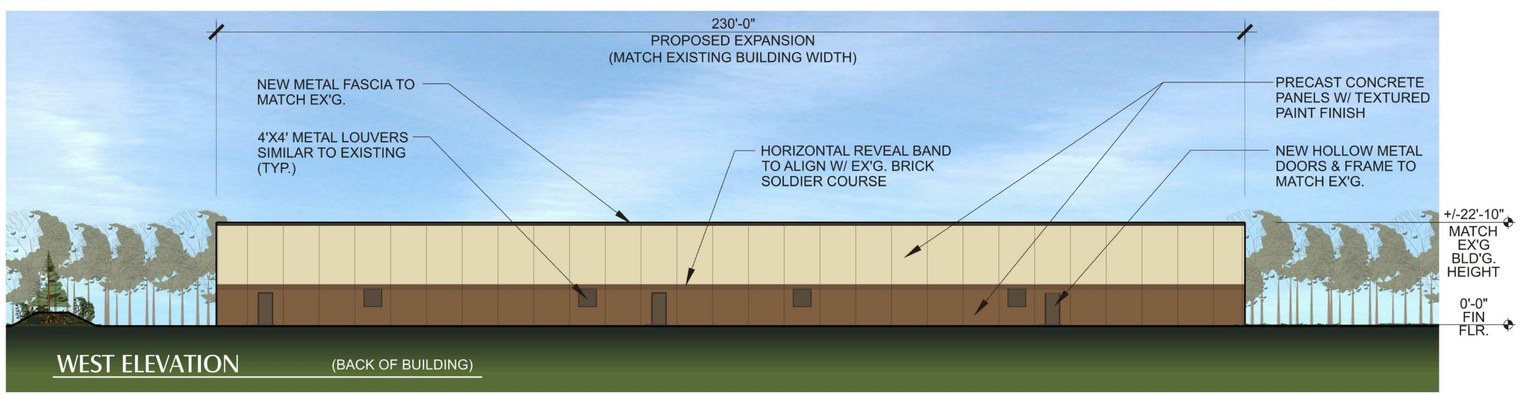






EXTERIOR FINISH SPECIFICATIONS

PRECAST CONCRETE WALL PANELS
PRECAST CONCRETE WALL PANELS WITH FIELD APPLIED MEDIUM TEXTURED WATERPROOF MASONRY COATING, "LOXON-XP" BY SHERWIN WILLIAMS OR EQUAL. COLORS TO BE SIMILAR TO EXISTING BUILDING MATERIALS AS INDICATED BELOW. FIELD MOCKUP TO BE PROVIDED TO CONFIRM MATCH & ADJUSTMENT AS REQUIRED PRIOR TO FINISHING PANELS

LOWER PORTION
#SW6096 "JUTE BROWN" SIMILAR TO EXISTING BRICK.

UPPER PORTION
#SW6679 "FULL MOON" SIMILAR TO EX'G. METAL SIDING.

METAL FASCIA
PREFINISHED METAL FASCIA IN DARK BRONZE FINISH TO MATCH EXISTING BUILDING FASCIA

OVERHEAD DOORS
PREFINISHED INSULATED METAL SECTIONAL DOORS BY WAYNE DALTON OR EQUAL IN MANUFACTURER'S STANDARD BROWN FINISH TO MATCH EXISTING OVERHEAD DOORS.

MAN DOORS
INSULATED STEEL HOLLOW METAL DOORS AND FRAMES WITH FIELD APPLIED ENAMEL PAINT FINISH. COLOR TO BE SHERWIN WILLIAMS #SW9091 "HALF-CALF".

METAL LOUVERS
PREFINISHED METAL LOUVERS IN MANUFACTURER'S STANDARD "DARK BRONZE" FINISH TO MATCH EXISTING LOUVERS.

PREMIER
Development Partners
5301 Grant Avenue
Cleveland, OH 44125
Phone: (216)341-1200

MARCH 28, 2025

EXTERIOR ELEVATIONS
0 16'

SPECIALTY LUBRICANTS

PROPOSED EXPANSION
8300 CORPORATE PARK DRIVE, MACEDONIA, OHIO

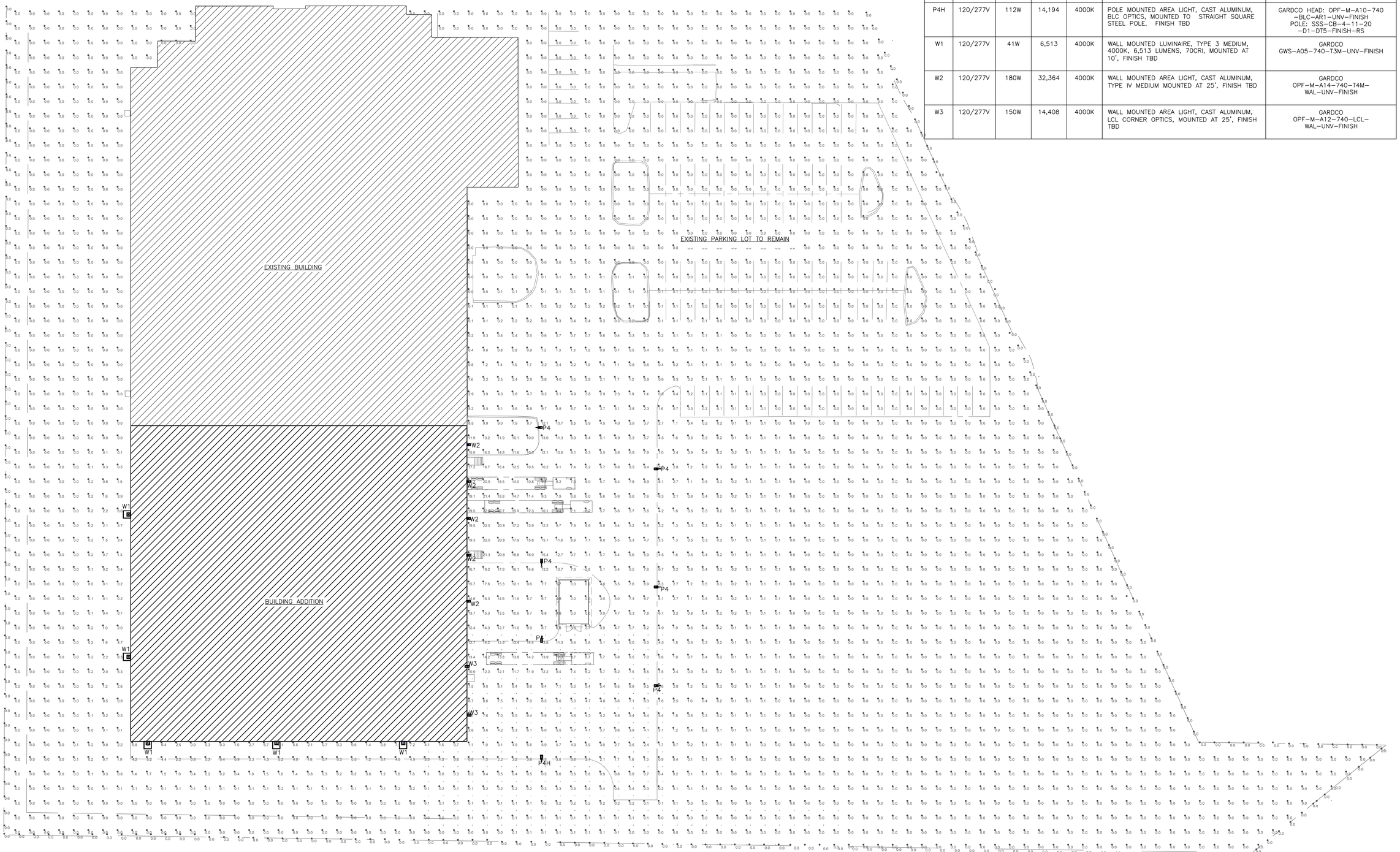
24.069

SK.2

DSC ARCHITECTS
401 FRONT STREET
BEREA, OHIO 44017
PHONE: 440.835.3957
mail@dscarchitects.com

LIGHTING FIXTURE SCHEDULE

TYPE	VOLTAGE	WATTAGE	LUMENS	CCT	DESCRIPTION	CATALOG #
P4	120/277V	150W	26,625	4000K	POLE MOUNTED AREA LIGHT, CAST ALUMINUM, TYPE IV MEDIUM, MOUNTED TO STRAIGHT SQUARE STEEL POLE, FINISH TBD	GARDCO HEAD: OPF-M-A12-740 -T4M-AR1-UNV-FINISH POLE: SSS-CB-4-11-20- D1-DT5-FINISH-RS
P4H	120/277V	112W	14,194	4000K	POLE MOUNTED AREA LIGHT, CAST ALUMINUM, BLC OPTICS, MOUNTED TO STRAIGHT SQUARE STEEL POLE, FINISH TBD	GARDCO HEAD: OPF-M-A10-740 -BLC-AR1-UNV-FINISH POLE: SSS-CB-4-11-20 -D1-DT5-FINISH-RS
W1	120/277V	41W	6,513	4000K	WALL MOUNTED LUMINAIRE, TYPE 3 MEDIUM, 4000K, 6,513 LUMENS, 70CRI, MOUNTED AT 10', FINISH TBD	GARDCO GWS-A05-740-T3M-UNV-FINISH
W2	120/277V	180W	32,364	4000K	WALL MOUNTED AREA LIGHT, CAST ALUMINUM, TYPE IV MEDIUM MOUNTED AT 25', FINISH TBD	GARDCO OPF-M-A14-740-T4M- WAL-UNV-FINISH
W3	120/277V	150W	14,408	4000K	WALL MOUNTED AREA LIGHT, CAST ALUMINUM, LCL CORNER OPTICS, MOUNTED AT 25', FINISH TBD	GARDCO OPF-M-A12-740-LCL- WAL-UNV-FINISH



OVERALL SITE PLAN
SCALE: 1" = 30'-0"

MARK	BY	DATE	ISSUES AND REVISIONS
-	TMC	01/17/25	ISSUED FOR PLANNING COMMISSION

PROGRESS NOT FOR CONSTRUCTION

GREAT OAKS
engineered solutions
(216)352-3439
Info@GreatOaksCo.com
www.GreatOaksCo.com

BUILDING EXPANSION FOR SPECIALTY LUBRICANTS

8300 CORPORATE PARK DR,
MACEDONIA, OH 44056

JOB NO.	XXXX-XXXX
DATE	01/17/25
SCALE	AS NOTED
DESIGNED	TMC
DRAWN	KMG
CHECKED	TMC
APPROVED	TMC

DRAWING TITLE
PRELIMINARY SITE LIGHTING PLAN

DRAWING NUMBER
E-900

MEMORANDUM

To: Mr. Nicholas Molnar, Mayor
Mr. Nino Monaco, Building Commissioner

From: Pam Schultz, Architectural Review Consultant

Subject: Specialty Lubricants
8300 Corporate Park Drive
Macedonia, OH

Date: April 11, 2025

I have reviewed the revised plans submitted for Specialty Lubricants dated 03.28.25. The proposed plans are for a 49,680 sf addition to an existing 69,223 sf building. The building is located in an industrial area which is covered by the Architectural Design Standards of Macedonia, OH along with specifically, 1172.02 of the Applicable City-Wide Standards. With those standards in mind, I offer the following for your consideration:

1. The drawings call for the addition to be made from precast concrete wall panels. Details are not provided of the horizontal reveals shown on the drawings. A reveal will add to the three-dimensional quality and overall look of the addition. Materials for the addition need to be maintenance free or the owner should provide an agreed upon maintenance plan for future painting needs. (Re-painting a 50,000 sf addition every 10 years is somewhat problematic and should be discussed and approved by the Commission).
2. Any HVAC units were not shown on drawings as requested in the January memo. The materials, colors and finishes used for screening rooftop units and any surface equipment shall be consistent with the primary structure and should be an integral part of the building design. (please see 1172.02(a)(4) of Applicable City-Wide Standards.
3. The drawings call for covered outdoor storage utilizing a board-on-board fence. Drawings and details are needed for this structure. Colors should be provided. The area must utilize materials consistent with the building and be built with a harmonious intent in mind. (please see 1172.02(a)(2)(3)(5) Detailed drawings are needed or approved by the Commission.
4. If a dumpster is utilized, the dumpster enclosure shall be placed on the site plan and materials should be called out for review. Any doors or gates, must be self-closing and all should be made of maintenance-free materials to match the building.

It is my recommendation the applicant address the issues listed above. Details are needed of any exterior HVAC locations, the "covered outdoor storage" and the dumpster area design.

Please feel free to contact me with any questions or comments.
Thank you!

Pam Schultz

Memorandum

TO: Nicholas Molnar, Mayor
and Macedonia Planning Commission

FROM: Brian M. Frantz, AICP

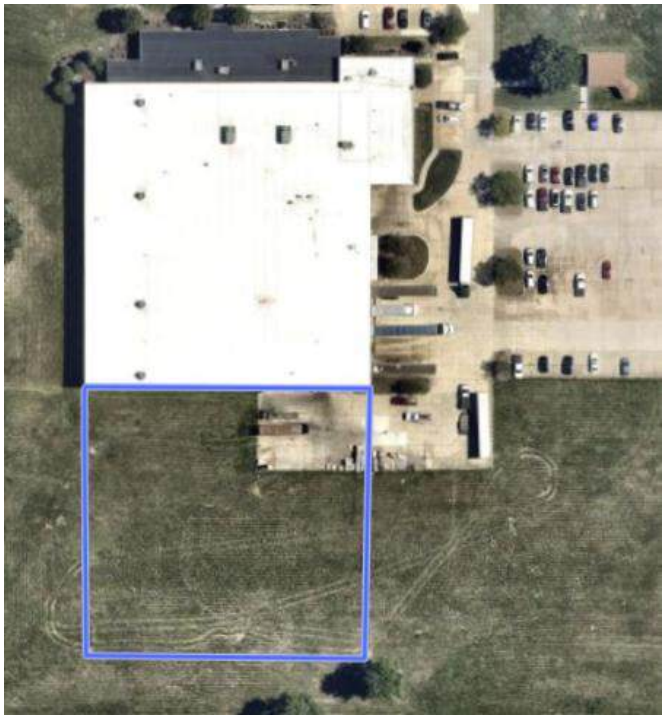
SUBJECT: Final Plan Approval - Specialty Lubricants Building Addition & Site Improvements

DATE: April 5, 2025

The applicant (Specialty Lubricants) is proposing to construct a 49,680 square feet addition to the existing 67,582 square feet building on the property located at 8300 Corporate Park Drive. When complete, the building will be 117,262 square feet on approximately 11 acres. The site is zoned General Industrial (GI) and the industrial use is permitted by right in this District.

I have reviewed an application for final plan approval dated March 28, 2025 (including a site plan and architectural elevations) in connection with this request and offer the Planning Commission with the following comments for their consideration:

Background
The proposal is to construct an additional 49,680 square feet (216'x230') of manufacturing/distribution space to the west end of the existing building in an area that is substantially grass (see image to the right – blue square represents the addition).



The final plan submission now depicts the 17'x62' (1,054 sq.ft.) outdoor storage space screened using a board-on-board fence instead of the previously proposed chain link fence with privacy slats. Please note: the screen fence is proposed to be 12 feet tall.

Revisions to the overall building architecture are proposed based on discussions with the Planning Commission during preliminary plan approval.

Analysis

(1) **Parking** – The project summary on Sheet SP.1 states that 236 off-street parking spaces are required, and 123 spaces are provided. My calculation of the required off-street parking is based on the office and warehouse use, but takes out 20% of the floor area for mechanical uses. Using this approach compared to the building use break-down in the project summary, 32 parking spaces are required for the office, 96 spaces for the manufacturing, and 61 are required for the warehouse space, for a total of 189 required off-street parking spaces post construction. With 123 spaces being provided, the site is deficient 66 parking spaces. The site plan states that the

actual employee count is 85 to justify the reduction. **ACTION ITEM: None, a variance of 113 parking spaces was granted at the March 19th meeting by the Board of Zoning Appeals (BZA).**

(2) **Landscaping** – Landscaping is provided on Sheet L.1 and documents a long three-foot-tall mound that extends the entire rear of the proposed addition and approximately half of the existing building. Generally, the plan proposes a good mixture of deciduous and coniferous trees. **ACTION ITEM: As previously stated, additional landscape materials/mounding should be added to the west side of the building addition. Currently, the proposal only includes a single Celebration Maple (see image to the right).**

(3) **Outdoor Storage** – The proposed outdoor storage is now proposed to be screened using a 12-foot-tall board-on-board privacy fence. **ACTION ITEM: None, however the screen fence is 12 feet tall and should be confirmed as acceptable by the Planning Commission.**

(4) **Lighting** –Sheet E-900 provides information regarding the site photometrics. **ACTION ITEM: None, the proposed lighting levels are acceptable and provide no light bleed at the property lines.**

(5) **Stormwater Drainage** – A new storm water basin is conceptually illustrated adjacent to the entrance driveway. **ACTION ITEM: A letter from Riverstone dated January 17, 2025 describes the proposed basin. The City Engineer will confirm these details and determine if the basin is acceptable as proposed.**

(6) **Building Architecture** – Sheet SK.2 provides revised details regarding the existing and proposed architecture. The revised architecture based on conversations with the Planning

Commission now includes 4'x4' metal louvers to match the existing instead of utilizing windows. **ACTION ITEM: The proposal seems to propose the items previously discussed with the Planning Commission. If the Commission finds these changes acceptable, then I believe the proposal can be approved as submitted subject to final confirmation by the City's Design Reviewer.**

(7) **Miscellaneous** – A signature block for the Planning Commission Chair must be added to the front cover sheet on the final site plan.

Conclusion

The applicant addressed most of the items from the preliminary plan discussion. A few things remain and should be documented on a revised final plan submission. If acceptable, this final review can be conducted administratively to avoid an additional meeting with the Commission.

Please do not hesitate to contact me with any questions.

peak

Macedonia, OH

05 MARCH, 2025

GEIS COMPANIES

peak

Macedonia, OH

GEIS COMPANIES

05 MARCH, 2025

peak

Macedonia, OH

05 MARCH, 2025

GEIS COMPANIES

peak

Macedonia, OH

05 MARCH, 2025

GEIS COMPANIES

peak

Macedonia, OH

05 MARCH, 2025

GEIS COMPANIES

City of Macedonia

Building, Engineering, Zoning & Planning Dept.

The Crossroads of Northeast Ohio

9691 Valley View Road • Macedonia, Ohio 44056
330 / 468-8360 • Fax: 330 / 468-8396

APPLICATION FOR HEARING BEFORE THE MACEDONIA PLANNING COMMISSION

ALL PLANS FOR SUBMITTAL MUST BE FOLDED. NO ROLLED PLANS WILL BE ACCEPTED.

DATE OF APPLICATION: 28 MAR 25

LOCATION OF PROPERTY INVOLVED: 8854 VALLEY VIEW ROAD

NATURE OF REQUEST: SITE PLAN REVIEW

APPLICANT NAME & PHONE: TREVOR EXTINE 330-701-3403

APPLICANT ADDRESS: 10020 AURORA-HUDSON RD STREETSBORO, OH.

APPLICANT EMAIL ADDRESS: TREVOR@GEISCO.NET

APPLICANT SIGNATURE: Trevor Extine

NOTES:
SITE PLAN REVIEW FOR A NEW 239,000 SF MANUFACTURING FACILITY.

MEETING DATE: APRIL 21 **FILING FEE** _____ **ESCROW REQUIRED** PREVIOUSLY PAID

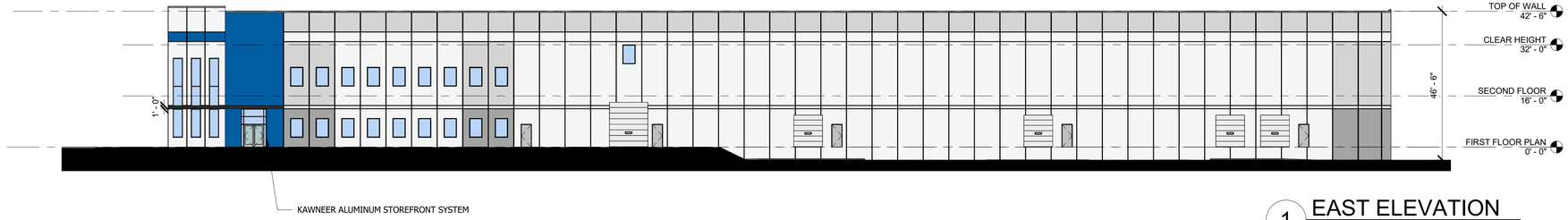
Deadline for submitting applications is 21 DAYS prior to meeting date. When applying for a hearing, please furnish THREE sets of sketches, maps, drawings, descriptions, or photographs of the property in question. THREE copies of the site plan are required. PLANS MUST BE FOLDED, NOT ROLLED. No rolled plans will be accepted. 11x17 is acceptable for Planning Commission review only. If new construction is involved, a landscape and signage plan should be prepared. This application is for the purpose of scheduling and planning the time of the Macedonia Planning Commission. It is the Commission's desire to serve each applicant with a minimum of delay.

PLEASE NOTE: PERMIT FEES ARE NOT INCLUDED IN THE FILING FEE. ADDITIONAL FEES MAY BE REQUIRED.

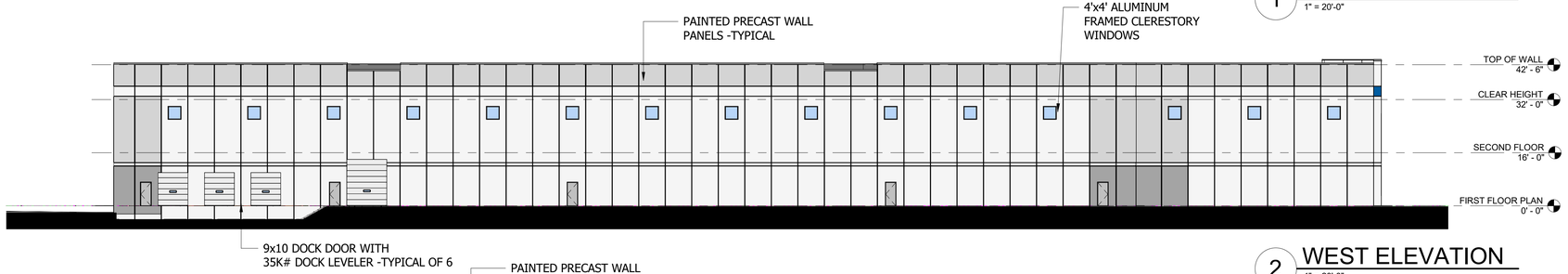
The Macedonia Planning Commission meets on the 3rd Monday of each month.

Make checks payable to:
City of Macedonia

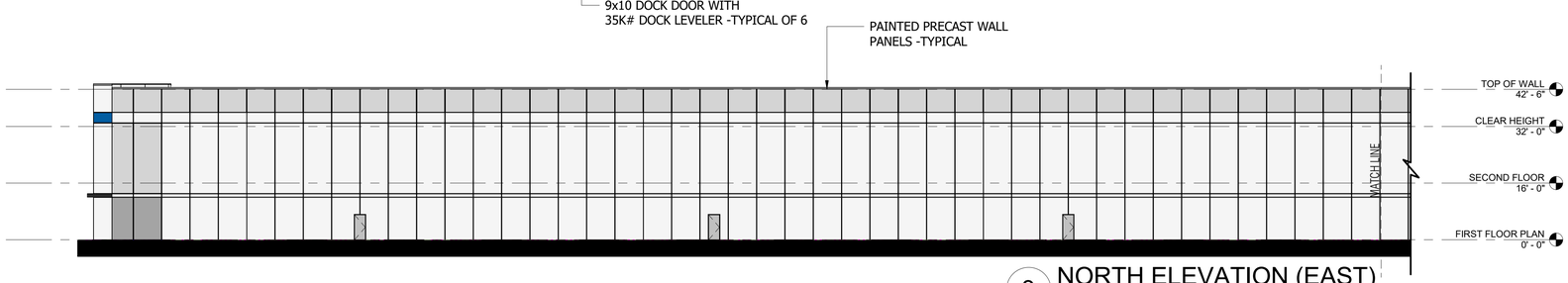
Please submit plans to:
Macedonia Building Department
9691 Valley View Rd.
Macedonia, OH 44056



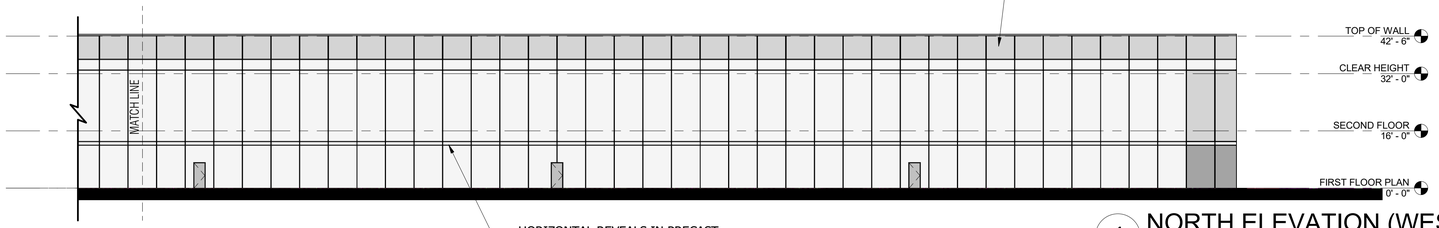
1 EAST ELEVATION
1" = 20'-0"



2 WEST ELEVATION
1" = 20'-0"



3 NORTH ELEVATION (EAST)
1" = 20'-0"



4 NORTH ELEVATION (WEST)
1" = 20'-0"

5 SOUTH ELEVATION (WEST)
1" = 20'-0"

6 SOUTH ELEVATION (EAST)
1" = 20'-0"

GEIS COMPANIES
10020 Aurora-Hudson Rd
Streetsboro, Ohio 44241
PH: (330) 528-3500
FX: (330) 528-0008
www.geisco.net

DATES AND REVISIONS

3/24/2025 1:47:09 PM

PNFM

MACEDONIA, OH

Drawn By
Checked By
Project Number

EXTERIOR ELEVATIONS
DRAWING NO:
A-301

1

PT-1 PRECAST WALL PANELS
PAINTED
SHERWIN WILLIAMS
COLOR: SPARE WHITE SW6203

2

PT-2 PRECAST WALL PANELS
PAINTED
SHERWIN WILLIAMS
COLOR: GRAY CLOUDS SW7658

3

PT-3 PRECAST WALL PANELS
PAINTED
SHERWIN WILLIAMS
COLOR: TIN LIZZIE SW9163

4

PT-4 PRECAST WALL PANELS
PAINTED
SHERWIN WILLIAMS
COLOR: GRIZZLE GRAY SW7068

5

PT-5 PAINTED ACCENT
BAND ON PRECAST PANELS
COLOR TO MATCH
PEAK NANO BLUE

6

PT-6 PAINTED ACCENT
BAND AT ENTRY TO ALIGN
WITH CANOPY
COLOR: TRICORN BLACK
SW6258

7

ACM METAL PANEL
ALPOLIC (OR EQUAL)
COLOR TO MATCH
PEAK NANO BLUE

8

CANOPY
UNACLAD (OR EQUAL)
COLOR: MATTE BLACK

9

STOREFRONT
AND WINDOWS
KAWNEER (OR EQUAL)
BLACK ANODIZED FINISH

10

1" INSULATED GLASS
LOW-E COATED
SIMILAR TO
1/4" VITRO SB60 ON SOLAR
GRAY, 1/2" AIRSPACE, 1/4"
CLEAR

11

SCUPPERS
PVDF RESIN BASED
COATING
UNA-CLAD (OR EQUAL)
COLOR: TO MATCH
ADJACENT WALL

12

METAL COPING
AT PT-1
FIRESTONE/UNA-CLAD
COLOR: BONE WHITE

13

METAL COPING
AT PT-2
FIRESTONE/UNA-CLAD
COLOR: CITYSCAPE

14

HOLLOW METAL DOORS
AND FRAMES PAINTED
SHERWIN WILLIAMS
TO MATCH ADJ. WALL

15

OVERHEAD DOORS
WAYNE DALTON (OR
EQUAL)
COLOR: WHITE

peak

EXTERIOR MATERIAL FINISH SELECTIONS

PLEASE SIGN AND SEND BACK TO PROJECT ARCHITECT WITHIN 24 HOURS OF RECEIPT

PROJECT NAME: PEAK NANO
PROJECT LOCATION: MACEDONIA, OH
PROJECT NUMBER: 25-00-618
PROJECT REPRESENTATIVE: MIKE HUS

AS DEFINED ON THE DIGITAL EXTERIOR MATERIAL BOARD AND SHOWN IN THE RENDERING, THIS CONSTITUES YOUR AUTHORITY TO PROCEED WITH ALL EXTERIOR MATERIALS TO BE ORDERED IN ACCORDANCE WITH THE PROJECT SCHEDULE.

PLEASE NOTE ALTERNATIVE MANUFACTURERS MAY BE SUBSTITUTED IF SIMILAR PRODUCTS ARE APPROVED BY ARCHITECTURAL DESIGN TEAM AFTER REVIEW OF SUBMITTED SAMPLES.

ACCEPTED BY:

CLIENT REPRESENTATIVE

DATE OF APPROVAL

GENERAL NOTES

1. EACH CONTRACTOR IS TO VERIFY WITH OWNER AND UTILITY COMPANIES (OHIO UTILITIES PROTECTION SERVICE 1-800-362-2764) THE LOCATIONS IN THE FIELD THE ACTUAL LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL CALL UTILITY PROTECTION SERVICE 72 HOURS PRIOR TO CONSTRUCTION.
2. VERIFY EXISTING FINISH SURFACE, GRADES, TOPSOIL QUALITY AND DEPTH. DO NOT START ANY WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED. VERIFY LIMITS OF WORK BEFORE STARTING.
3. CONTRACTOR RESPONSIBLE FOR COST OF REPAIRS TO EXISTING SITE CONDITIONS WHEN DAMAGED BY CONTRACTOR. REPAIR TO THE SATISFACTION OF THE OWNER.
4. ALL PLANT MASSES TO BE CONTAINED WITHIN 3" DEEP HARDWOOD BARK MULCH BED.
5. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE IN LAWN AREAS.
6. FINE GRADE LAWN AREAS TO PROVIDE A SMOOTH AND CONTINUAL GRADE FREE OF IRREGULARITIES OR DEPRESSIONS.
7. CONTRACTOR SHALL SEED OR SOD ALL AREAS DISTURBED DURING CONSTRUCTION, SEE PLAN. ALL PARKING ISLANDS TO BE TURF.
8. ALL PLANTS SHALL MEET OR EXCEED STANDARDS SET IN THE U.S.A. STANDARD FOR NURSERY STOCK.
9. ALL PLANTING OPERATIONS SHALL ADHERE TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS.

PLANT SCHEDULE				
ID	Qty	Botanical Name	Common Name	Scheduled Size
AB-CO	12	Abies concolor	White Fir	6'
AC-AB	23	Acer f. 'Autumn Blaze'	Autumn Blaze Maple	2.5"
AC-AR	9	Acer r. 'Armstrong Gold'	Armstrong Gold Maple	2.5"
AC-BR	6	Acer r. 'Brandywine'	Red Point Maple	2.5"
BE-HE	6	Betula n. 'Heritage'	Heritage River Birch	14-16'
BU-GG	113	Buxus x 'Green Gem'	Green Gem Boxwood	24"
EU-CO	77	Euonymus a. 'Compacta'	Dwarf Winged Burning Bush	36"
HY-LL	34	Hydrangea p. 'Little Lime'	Little Lime Hydrangea	#3
JU-BU	91	Juniperus s. 'Buffalo'	Buffalo Juniper	#3
MA-RR	12	Malus 'Royal Raindrops'	Royal Raindrops Crabapple	1.75"
PI-AB	34	Picea abies	Norway Spruce	6-7'
PI-DE	33	Picea g. 'Densata'	Black Hills Spruce	8-9'
PN-ST7	14	Pinus strobus	Eastern White Pine	6-7'
QU-PA	13	Quercus palustris	Pin Oak	2.5"
TH-GG	19	Thuja p. 'Green Giant'	Green Giant Arborvitae	6'
VI-MA	15	Viburnum p. t. 'Mariesii'	Doublefile Viburnum	36"

LANDSCAPING PLAN

SCALE: 1" = 80'-0"

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FX: (330) 528-0008
www.geisco.net

DATES AND REVISIONS

14Feb25

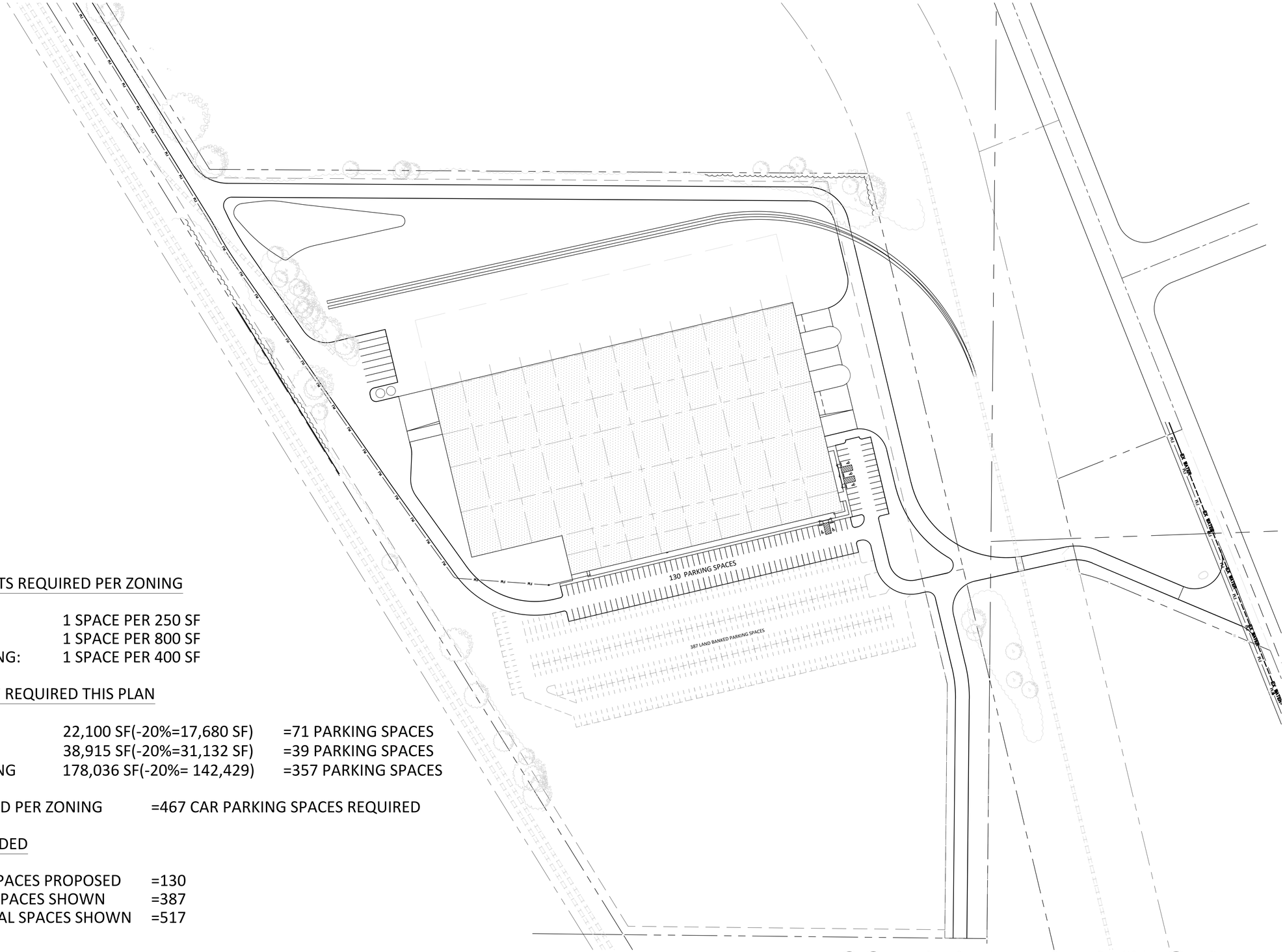
REVISIONS REFLECTED IN THESE DRAWINGS INVOLVE CHANGES TO CONTRACT PRICE PREVIOUSLY PROVIDED. CHANGE ORDERS WILL BE PROVIDED FOR ALL CHANGES. THESE CHANGES ARE NOT IN THE BASE BID.

BUILDING SITE STUDY

TRI MOR SITE, MACEDONIA, OHIO

Drawn By
Checked By
Project Number

SITE PLAN
DRAWING NO:
LS.1



PARKING COUNTS REQUIRED PER ZONING

OFFICE:	1 SPACE PER 250 SF
STORAGE:	1 SPACE PER 800 SF
MANUFACTURING:	1 SPACE PER 400 SF

PARKING PER SF REQUIRED THIS PLAN

OFFICE:	22,100 SF(-20%=17,680 SF)	=71 PARKING SPACES
STORAGE:	38,915 SF(-20%=31,132 SF)	=39 PARKING SPACES
MANUFACTURING	178,036 SF(-20%= 142,429)	=357 PARKING SPACES

TOTAL REQUIRED PER ZONING =467 CAR PARKING SPACES REQUIRED

PARKING PROVIDED

CAR PARKING SPACES PROPOSED	=130
LAND BANKED SPACES SHOWN	=387
POTENTIAL TOTAL SPACES SHOWN	=517

COMPLIANT PARKING PLAN

SCALE: 1" = 80'-0"

GEIS COMPANIES
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DATES AND REVISIONS

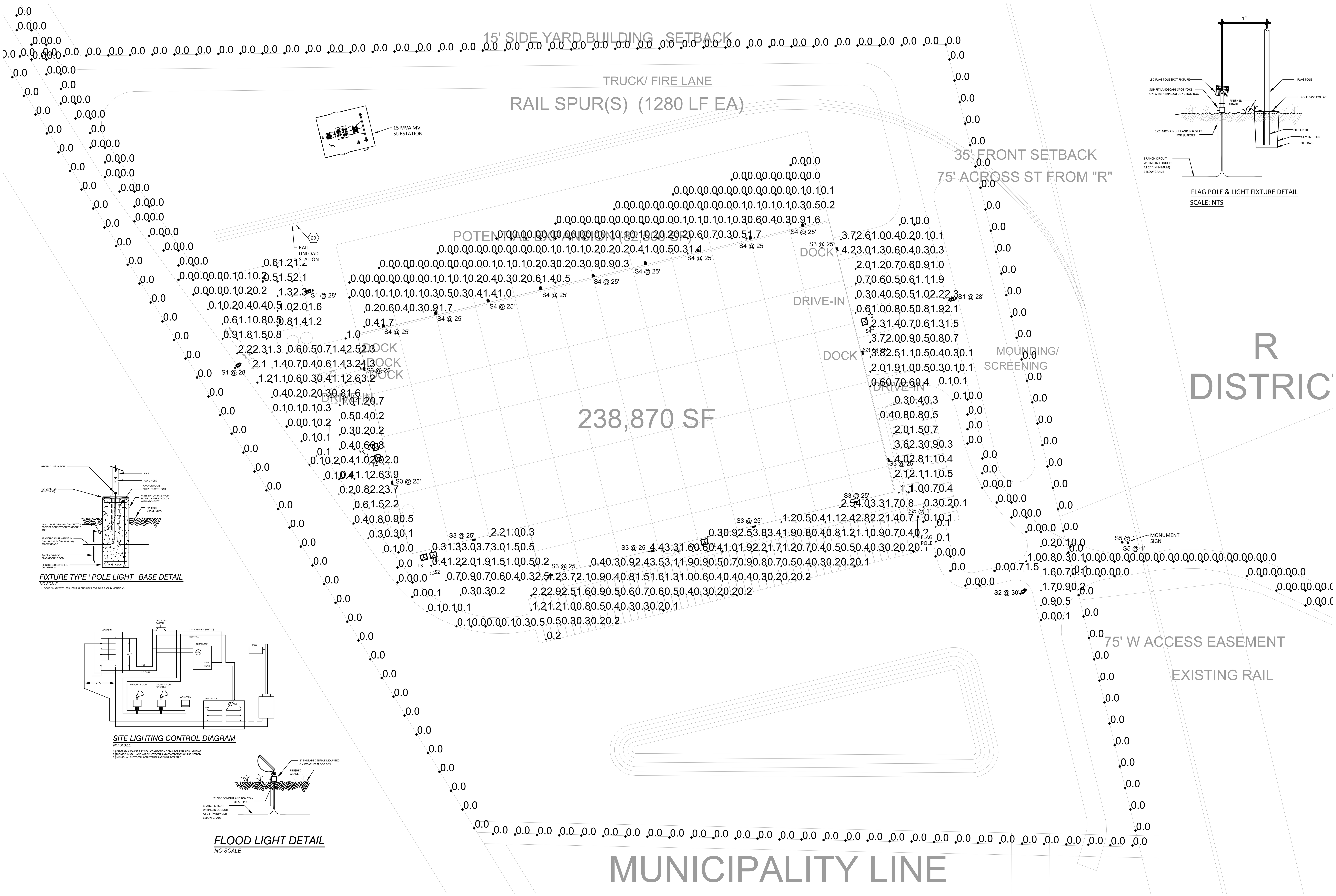
20Feb25

BUILDING SITE STUDY

TRI MOR SITE, MACEDONIA, OHIO

Drawn By
Checked By
Project Number

PARKING PLAN
DRAWING NO:
PP.1



TAG	SITE LIGHTING FIXTURE SCHEDULE MFG/ MODEL#	DESC	LAMP	LUMENS	WATTAGE	VOLTAGE	NOTES
S1	LSI / MRM-LED-18L-SIL-FT-40-70CRI-IL	SITE POLE	LED	12406.99	135	UNV	OR EQUAL
S2	LSI / MRM-LED-09L-SIL-AM-40-70CRI-IL	SITE POLE	LED	6377.827	62	UNV	OR EQUAL
S3	LSI / XWM-FT-LED-21L-40	WALLPACK	LED	21331.82	150	UNV	OR EQUAL
S4	LSI / /MCOWP-27-45	WALLPACK	LED	3236.452	26.85	UNV	OR EQUAL
S5	LSI / SFLS-WF-LED-PL1-40	GROUND FLOOD	LED	2318.623	19.566	UNV	OR EQUAL

SITE PHOTOMETRIC PLAN

SCALE: 1" = 60'-0"

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Streetsboro, Ohio 44241
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DATES AND REVISIONS
25 MARCH 2025

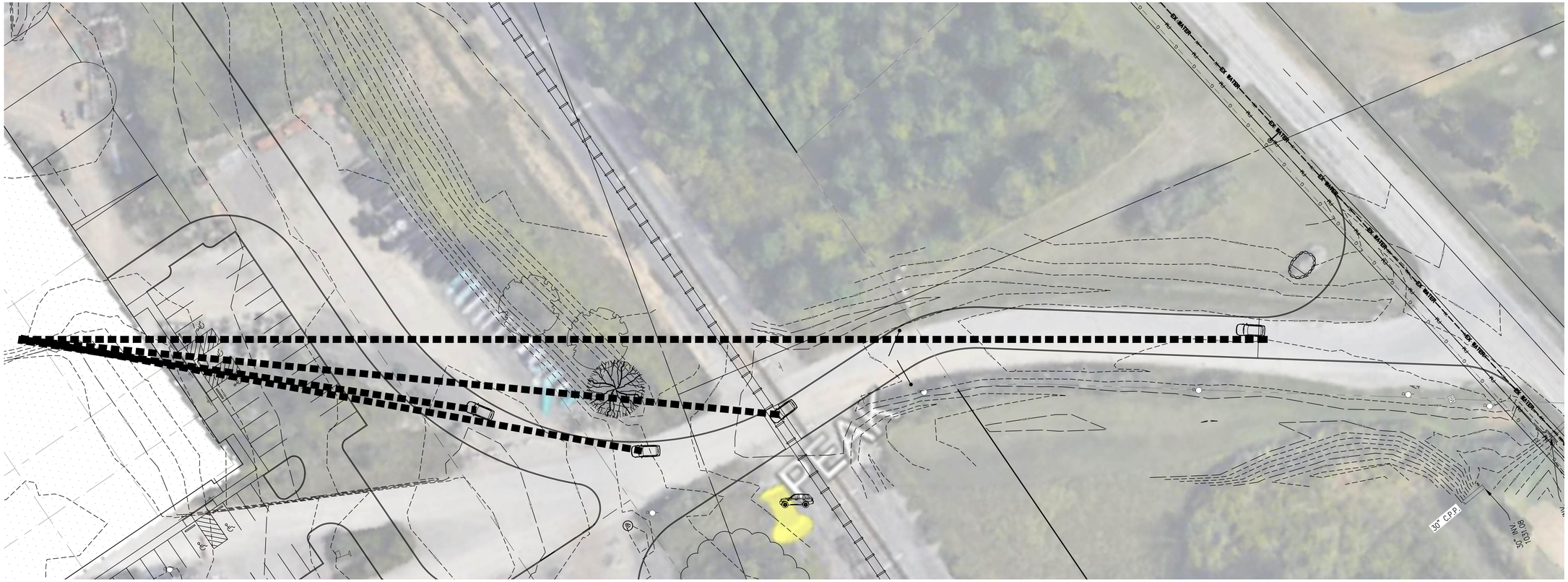
NOTICE

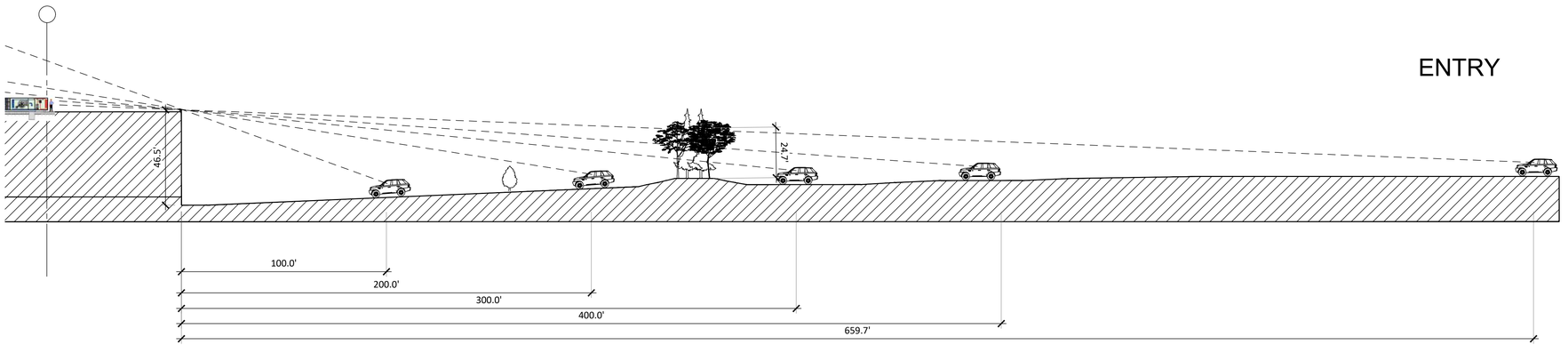
REVISIONS REFLECTED IN THESE DRAWINGS INVOLVE CHANGES TO CONTRACT PRICE PREVIOUSLY PROVIDED. CHANGE ORDERS WILL BE PROVIDED FOR ALL CHANGES. THESE CHANGES ARE NOT IN THE BASE BID.

PNFM
***
Macedonia, Ohio

Drawn By
Checked By
Project Number

ELECTRICAL PLAN
DRAWING NO:
E0





LINE OF SIGHT STUDY AT ENTRY

SCALE: 1" = 30'-0"

GEIS COMPANIES
10020 Aurora-Hudson Rd
Streetsboro, Ohio 44241
PH: (330) 528-3500
FX: (330) 528-0008
www.geisco.net

DATES AND REVISIONS

20Feb25

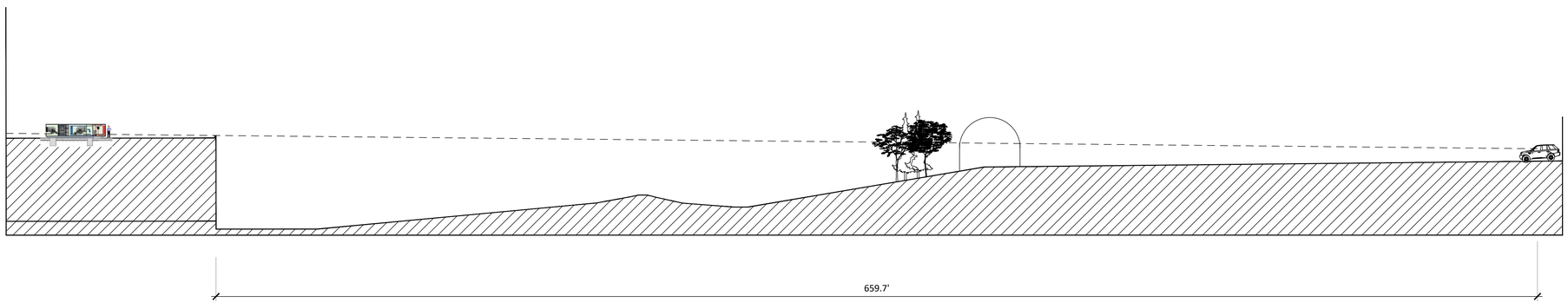
LINE OF SIGHT STUDY

TRI MOR SITE, MACEDONIA, OHIO

Drawn By
Checked By
Project Number

LINE OF SITE
DRAWING NO:

LOS1



LINE OF SIGHT STUDY AT HIGH GROUNDS

SCALE: 1" = 30'-0"

GEIS COMPANIES
10020 Aurora-Hudson Rd
Streetsboro, Ohio 44241
PH: (330) 528-3500
FX: (330) 528-0008
www.geisco.net

DATES AND REVISIONS

20Feb25

LINE OF SIGHT STUDY

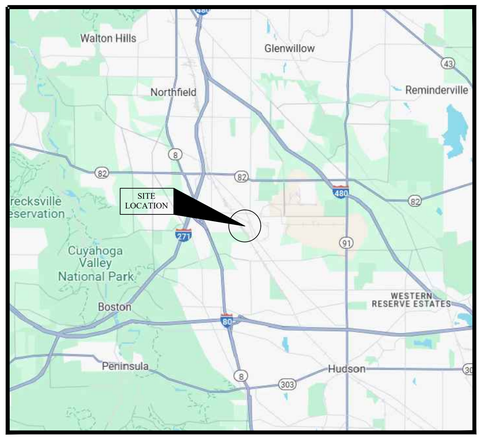
TRI MOR SITE, MACEDONIA, OHIO

Drawn By
Checked By
Project Number

LINE OF SIGHT
DRAWING NO:
LOS2

PNFM

CITY OF MACEDONIA
COUNTY OF SUMMIT
STATE OF OHIO



VICINITY MAP
NO SCALE

N

Survey by:

R M K O L E & ASSOC. CORP.
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02-21-2025
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PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

TITLE SHEET

C100
Project No. 2024-317

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CLEVELAND WATER NOTES FOR WATER MAIN INSTALLATION AND/OR REPLACEMENT

DEVELOPERS, ENGINEERS, AND CONTRACTORS ARE TO ABIDE BY THE MOST CURRENT VERSION OF THE CLEVELAND WATER NOTES AND DETAILS. THE MOST UP-TO-DATE VERSION CAN BE FOUND AT WWW.CLEVELANDWATER.COM/CONSTRUCTION/

GENERAL:

1. ALL WATER WORK REQUIRED, WHETHER SHOWN ON THE PLANS OR AS DIRECTED BY CLEVELAND WATER, SHALL BE AT THE EXPENSE OF THE PROJECT UNLESS OTHERWISE AGREED TO BY THE COMMISIONER OF THE CLEVELAND DIVISION OF WATER.

2. THE INFORMATION SHOWN ON THE CLEVELAND DIVISION OF WATER'S SUMMARY OF WORK/CHARGE LETTER, STRIP MAPS, AS BUILT DRAWINGS, AND GIS ARE TAKEN FROM EXISTING AVAILABLE RECORDS, AND THEIR ACCURACY IS NOT GUARANTEED.

3. CALL THE INSPECTION AND ENFORCEMENT UNIT AT 216-664-2342 TO SCHEDULE A PRECONSTRUCTION MEETING AT LEAST 1 WEEK PRIOR TO STARTING CONSTRUCTION. THE OPERATION OF ANY VALVE OR ALTERATION OF ANY PART OF THE WATER SYSTEM BY CONTRACTORS OR THEIR EMPLOYEES IS PROHIBITED WITHOUT THE SUPERVISION OF THE CLEVELAND DIVISION OF WATER INSPECTOR. SEE ALSO NOTE 20 REGARDING ADDITIONAL ADVANCE NOTIFICATION REQUIRED IN AREAS SUSPECTED TO CONTAIN LEAD SERVICE CONNECTION (ALL AREAS INSTALLED PRIOR TO 1954).

4. PRIOR TO REQUESTING CHLORINATION, THE CONTRACTOR SHALL SUPPLY THE CLEVELAND WATER INSPECTOR WITH REDLINE DRAWINGS SHOWING CHANGES MADE FROM THE APPROVED DESIGN DRAWINGS AND ACTUAL MEASUREMENTS. CHLORINATION SHALL NOT OCCUR BEFORE THESE DRAWINGS ARE SUBMITTED.

5. FOR THE PURPOSES OF CHLORINATION AND BACTERIOLOGICAL TESTING OF THE WATER MAINS THE CONTRACTOR SHALL PROVIDE AND INSTALL, AT EACH OF THE CHLORINATION PIT LOCATIONS SHOWN AND AT OTHER LOCATIONS DETERMINED BY CLEVELAND WATER. FLUSHING / SAMPLING TAP SIZES ARE TO BE DETERMINED CLEVELAND WATER. CHLORINATION PITS SHALL BE SIX (6) FOOT SQUARE AND ARE TO MEET OSHA STANDARDS. NO CUSTOMER TAPS SHALL BE INSTALLED PRIOR TO CHLORINATION.

6. A TWO YEAR WARRANTY, COMMENCING FROM THE DATE OF ACCEPTANCE OF THE FINAL CHLORINATION OF THE WATER MAIN INSTALLATION SHALL BE PROVIDED BY THE BUILDER/DEVELOPER AND/OR CONTRACTOR FOR ALL WATER MAINS AND SERVICE CONNECTION WORK PERFORMED BY THE CONTRACTOR, INCLUDING TAPS IF PERFORMED. SHOULD ANY LEAKS OCCUR AND REPAIRS BE REQUIRED DUE TO DEFECTIVE MATERIAL OR POOR WORKMANSHIP. A LETTER INDICATING THE COMMENCEMENT DATE AND END DATE OF THE WARRANTY SHALL BE INCLUDE WITH THE AS-BUILT SUBMISSION IN NOTE 12.

7. USE BACKFILL MATERIAL AS SPECIFIED AND COMPACT SUFFICIENTLY IN THOSE AREAS WHERE EXISTING MAINS AND WATER SERVICE CONNECTIONS ARE EXPOSED. (SEE CLEVELAND WATER STANDARD DETAIL STD-001)

8. ALL MATERIALS, INCLUDING BUT NOT LIMITED TO WATER MAINS, FIRE HYDRANTS, VALVES, CONNECTION MATERIALS AND OTHER WATER APPURTENANCES, SHALL BE NEW AND UNUSED AND SHALL CONFORM TO THE MOST CURRENT CLEVELAND WATER SPECIFICATIONS. ALL MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH CLEVELAND WATER'S STANDARDS.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING WATER MAINS AND APPURTENANCES THEREOF WHEN CONSTRUCTING OR CONNECTING THE NEW WATER MAIN. THIS SHALL INCLUDE LEADED JOINTS IN EXISTING FITTINGS WHICH MAY REQUIRE REPLACEMENT FITTINGS AT THE DISCRESION OF THE INSPECTOR IF IT IS DETERMINED THEY WERE DISTURBED. ALL REPAIRS TO DAMAGED EXISTING FACILITIES SHALL BE MADE BY THE CONTRACTOR, AT THE PROJECT' EXPENSE, TO THE SATISFACTION OF CLEVELAND WATER.

10. ALL HYDROSTATIC PRESSURE TESTING SHALL BE DONE BY THE CONTRACTOR IN THE PRESENCE OF THE CLEVELAND WATER INSPECTOR. THE HYDROSTATIC TEST PRESSURE SHALL BE 75 PSI ABOVE THE STATIC PRESSURE PREVAILING AT THE SITE, BUT IN NO CASE LESS THAN 150 PSI. THE PRESSURE TEST SHALL BE FOR A DURATION OF TWO (2) HOURS WITH THE PRESSURE BEING MAINTAINED WITHIN 5 PSI OF THE REQUIRED TEST PRESSURE. SHOULD THE PRESSURE TEST FAIL THE CONTRACTOR SHALL FIND AND CORRECT THE DEFICIENCY(IES) TO THE SATISFACTION OF CLEVELAND WATER AND REPEAT THE TWO (2) HOUR PRESSURE TEST.

11. ALL BURIED WATER MAINS, FITTINGS, VALVES, FIRE HYDRANT BRANCH PIPING AND APPURTENANCES SHALL BE ENCASED WITH V-BIO® ENHANCED POLYETHYLENE ENCASEMENT INSTALLED IN ACCORDANCE WITH THE MOST CURRENT REVISION OF ANSI/AWWA C-105/A21.5 MODIFIED METHOD "A".

12. THE PROJECT'S PROFESSIONAL ENGINEER OR A DESIGNATED PROFESSIONAL SURVEYOR SHALL OBTAIN ACTUAL FIELD MEASUREMENTS OF THE MAIN DURING INSTALLATION AND SHALL FURNISH THE CLEVELAND WATER INSPECTOR WITH AS-BUILT DRAWINGS MEETING CLEVELAND WATER STANDARDS WITHIN 30 DAYS OF THE WATER MAIN GOING INTO SERVICE AND ALL TAPS/RETAPS BEING MADE. ONE HARD COPY AND ONE PDF COPY SHALL BE PROVIDED. DRAWINGS SHALL BE SIGNED, DATED, AND STAMPED WITH THE ENGINEER OR SURVEYOR'S SEAL. REDLINE DRAWINGS ARE NOT SUFFICIENT. CLEVELAND WATER RESERVES THE RIGHT TO WITHHOLD PAYMENT AND/OR APPROVAL OF FUTURE WORK IF AS-BUILTS ARE NOT SUBMITTED.

WATER MAINS:

13. ALL PIPE, UNLESS OTHERWISE APPROVED BY CLEVELAND WATER, SHALL BE DUCTILE IRON, MINIMUM CLASS 52, CEMENT LINED HAVING PUSH-ON JOINTS WITH RADIALLY COMPRESSED RUBBER RING GASKET AND INSTALLED AS PER THE MOST CURRENT REVISION OF AWWA C600.

14. ALL FITTINGS, UNLESS OTHERWISE CALLED FOR, SHALL BE APPROVED DUCTILE IRON, CLASS 350, CEMENT LINED OR FUSION BONDED EPOXY COATED. ALL FITTINGS AND PIPE CONNECTED TO

CLEVELAND WATER NOTES FOR WATER MAIN INSTALLATION AND/OR REPLACEMENT

FITTINGS SHALL BE RESTRAINED USING A "RETAINED" MECHANICAL JOINT CONFORMING TO THE MATERIAL AND PERFORMANCE REQUIREMENTS OF ANSI/AWWA C-110/A21.10 AND ANSI/AWWA C-111/A21.11, OR "COMPACT" FITTINGS IN ACCORDANCE WITH ANSI/AWWA C-153/A21.53. EXCEPT FOR ANCHOR TEES, REDUCERS OR OTHER SPECIAL CIRCUMSTANCES WHEN BY CLEVELAND WATER, ALL FITTINGS ARE TO HAVE BELL ENDS.

15. ALL BOLTS AND NUTS ON ALL "RETAINED" MECHANICAL JOINTS SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINTING.

16. WHERE SHOWN ON THE PLANS, OR WHEN OTHERWISE CALLED FOR, PIPE AND FITTINGS SHALL HAVE AN APPROVED "TYPE I" OR "TYPE II" BOLTLESS RESTRAINED PUSH-ON JOINTS TO THE LIMITS SHOWN ON THE DRAWINGS.

17. AT THE END OF EACH WORKDAY, THE CONTRACTOR SHALL PLUG ALL OPEN PIPE ENDS WITH WATER TIGHT PLUGS AS PER THE "PREVENTITIVE AND CORRECTIVE MEASURES DURING CONSTRUCTION" SECTION OF THE MOST CURRENT REVISION OF AWWA C-651 AS TO PREVENT THE INFILTRATION OR INTRUSION OF ANY FOREIGN OBJECTS OR MATERIALS. DATE STAMPED DIGITAL PHOTOS SHALL BE PROVIDED FOR EACH WORKDAY DEMONSTRATING THAT PROPER AWWA C-651 METHODS WERE USED TO PLUG ALL OPEN WATER MAIN ENDS. EACH PHOTO SHALL CLEARLY IDENTIFY THE STATION AT WHICH THE PIPE IS PLUGGED. THE STATIONING SHALL BE SHOWN BY THE USE OF A STATION MARKER PLACED AT THE PLUGGED PIPE END.

PHOTOS SHALL BE SUBMITTED ON A DAILY BASIS UNLESS OTHERWISE DEFINED BY THE CLEVELAND WATER INSPECTOR OR ENGINEER. ALL PHOTOS TAKEN OVER THE COURSE OF THE PROJECT SHALL BE SUBMITTED BY THE CONTRACTOR AS PART OF THE AS-BUILT SUBMITTAL. PHOTOS ARE TO INCLUDE STATIONING MARKERS. AS-BUILTS SHALL BE DEEMED INCOMPLETE WITHOUT SAID COLLECTION OF DIGITAL PHOTOS.

HYDRANTS:

18. IN ALL HYDRANT INSTALLATIONS THE CONTRACTOR SHALL FACE ALL HYDRANT'S 4" (STEAMER) NOZZLE TOWARD THE PAVEMENT PRIOR TO TESTING AND CHLORINATION OF WATER MAINS. ONLY CLEVELAND WATER APPROVED HYDRANT MODELS SHALL BE INSTALLED. CONTRACTOR SHALL CONSULT WITH THE LOCAL MUNICIPALITY'S ENGINEERING OR SERVICE DEPARTMENT TO OBTAIN HYDRANT NOZZLE THREAD REQUIREMENTS IF NOT INDICATED ON THE APPROVED PLANS. ALL HYDRANTS SHALL BE FACTORY EQUIPPED WITH THE APPROPRIATE HYDRANT NOZZLE.

HYDRANT BRANCHES SHALL BE FULLY RESTRAINED AND INSTALLED PER THE APPROPRIATE HYDRANT CLEVELAND WATER HYDRANT DETAIL. HYDRANT BRANCH VALVES SHALL BE PLACED DIRECTLY AFTER THE HYDRANT TEE UNLESS OTHERWISE APPROVED BY THE INSPECTOR IN WRITING.

VALVES:

19. ALL VALVES SHALL BE AN APPROVED MODEL RESILIENT SEATED GATE VALVES AS PER THE MOST CURRENT VERSION OF AWWA C509 OR C515. VALVE OPERATING NUTS SHALL BE TAPERED (1 7/8" TO 2" FROM TOP TO BOTTOM) AND 2" DEEP. VALVES MORE THAN 10 YEARS OLD AT TIE IN POINTS TO EXISTING MAINS SHALL BE REPLACED AT THE PROJECT'S EXPENSE UNLESS OTHERWISE DIRECTED.

LEAD SERVICE CONNECTIONS:

20. LEAD SERVICES: A MINIMUM OF 45 DAYS BEFORE THE PRECONSTRUCTION MEETING, CWD SHALL PROVIDE A NOTICE TO ALL AFFECTED CUSTOMERS THAT THEIR WATER SERVICE LINE WILL BE DISTURBED. A MINIMUM OF 75 DAYS BEFORE THE PRECONSTRUCTION MEETING, THE CONTRACTOR OR ENGINEER SHALL PROVIDE CWD (AND THE LOCAL MUNICIPALITY OF OUTSIDE THE CITY OF CLEVELAND) A LIST OF ALL CUSTOMER ADDRESSES THAT WILL BE AFFECTED BY THE WATER MAIN REPLACEMENT PROJECT. FAILURE TO PROVIDE A LIST OF CUSTOMER ADDRESSES IN A TIMELY MANNER MAY RESULT IN PROJECT DELAYS.

ANY CITY-OWNED LEAD SERVICE LINE ENCOUNTERED SHALL BE REPLACED WITH TYPE K COPPER. THE REPLACEMENT SERVICE LINE SHALL BE SIZE-ON-SIZE WITH A 1-INCH MINIMUM DIAMETER. IF A CUSTOMER-OWNED LEAD SERVICE LINE IS ENCOUNTERED, THE CONTRACTOR SHALL LEAVE A CWD-SUPPLIED CUSTOMER NOTIFICATION DOOR HANGER ON ALL ACCESSIBLE POINTS OF ENTRY TO THE HOME AND IMMEDIATELY NOTIFY THE CWD INSPECTOR. IF THE CWD INSPECTOR IS NOT AVAILABLE, CALL PAYTON HALL AT (216) 664-2444, EXT. 73000 OR (216) 971-2721. CUSTOMERS WITH A CUSTOMER-OWNED LEAD SERVICE LINE SHALL NOT BE RECONNECTED TO THE NEW WATER MAIN WITHOUT EXPRESS WRITTEN APPROVAL FROM PAYTON HALL, OR HIS APPROVED REPRESENTATIVE AT CWD.

AS PART OF THIS CONTRACT, THE CONTRACTOR SHALL OFFER EACH CUSTOMER TO REPLACE LEAD SERVICES FROM THE CORPORATION STOP TO THE INLET STOP & WASTE VALVE INSIDE THE CUSTOMER'S HOME. IF THE REPLACEMENT IS NOT COVERED UNDER THE BID ITEMS, THE CONTRACTOR SHALL PROVIDE CWD (AND THE LOCAL MUNICIPALITY IF OUTSIDE THE CITY OF CLEVELAND) WITH A CHANGE ORDER AND COST ESTIMATES FOR THE CUSTOMER-OWNED LEAD SERVICE LINE REPLACEMENT. UPON APPROVAL FROM CWD (AND THE LOCAL MUNICIPALITY IF OUTSIDE THE CITY OF CLEVELAND), THE CONTRACTOR SHALL PERFORM THE REPLACEMENT OF THE CUSTOMER-OWNED LEAD SERVICE LINE. AS STATED ABOVE, CUSTOMERS WITH CUSTOMER-OWNED LEAD SERVICE LINES SHALL NOT BE RECONNECTED TO THE NEW WATER MAIN WITHOUT EXPRESS WRITTEN APPROVAL FROM PAYTON HALL, OR HIS APPROVED REPRESENTATIVE AT CWD.

IN THE EVENT THAT A CWD WAIVER IS GRANTED SUCH THAT A CUSTOMER-OWNED LEAD SERVICE LINE IS NOT REPLACED, CWD SHALL SUPPLY THE CONTRACTOR WITH LEAD FILTERS AND PITCHERS THAT THE CONTRACTOR SHALL DISTRIBUTE TO EACH RESIDENCE WITHIN THE PROJECT AREA, INCLUDING TO ALL UNITS OF MULTI-UNIT HOUSING BUILDINGS. THE FILTERS SHALL BE POUR-THROUGH PITCHER TYPE LEAD FILTERS THAT ARE NSF/ANSI-53 CERTIFIED TO REMOVE

CLEVELAND WATER NOTES FOR WATER MAIN INSTALLATION AND/OR REPLACEMENT

LEAD. THE PITCHER, A 3-MONTH SUPPLY OF FILTERS, AND CWD-SUPPLIED USE INSTRUCTIONS AND OTHER APPLICABLE MATERIALS SHALL BE DISTRIBUTED. RECORDS OF RESIDENTS WHO RECEIVED AND WHO REFUSED THE FILTERS SHALL BE PROVIDED BY THE CONTRACTOR TO CWD (AND THE LOCAL MUNICIPALITY IF OUTSIDE THE CITY OF CLEVELAND).

AT THE BEGINNING OF THE DAY THAT A CUSTOMER IS SCHEDULED TO BE CONNECTED TO THE NEW WATER MAIN, THE CONTRACTOR SHALL DISTRIBUTE THE APPROPRIATE CWD-SUPPLIED CUSTOMER NOTIFICATION DOOR HANGER AND OTHER APPLICABLE MATERIALS ON ALL ACCESSIBLE POINTS OF ENTRY TO THE HOME AND IN A PROMINENT LOCATION AT ALL MULTI-UNIT HOUSING BUILDINGS. THE APPROPRIATE DOOR NOTIFICATION WILL BE DETERMINED BY (1) WHETHER A CUSTOMER-OWNED LEAD SERVICE LINE REMAINS IN THE PROJECT AREA AND (2) THE TYPE OF MATERIAL OF THE INDIVIDUAL CUSTOMER-OWNED SERVICE LINE.

21. DIELECTRIC COUPLINGS: IN THE EVENT THAT A CWD WAIVER IS GRANTED SUCH THAT A CUSTOMER-OWNED LEAD SERVICE LINE IS NOT REPLACED, AND A NEW SERVICE IS CONNECTED TO A CUSTOMER-OWNED LEAD SERVICE LINE, A DIELECTRIC COUPLING SHALL BE PROVIDED TO TRANSITION FROM THE NEW MATERIALS TO THE LEAD PIPE. THE MODEL COUPLING USED IS SUBJECT TO APPROVAL FROM CWD. HARCO – PHILMAC UTC OR CWD-APPROVED EQUAL.

GENERAL SERVICE CONNECTIONS:

22. AS PART OF THE AS BUILT SUBMISSION IN NOTE 12, THE CONTRACTOR SHALL PROVIDE A TABLE SHOWING ALL EXISTING CONNECTIONS, IDENTIFIED BY CLEVELAND WATER CONNECTION NUMBER, SHOWING THE FOUND CONNECTION MATERIAL FOR BOTH THE CITYSIDE AND OWNERSIDE CONNECTION, AS WELL AS THE NEW CONNECTION MATERIAL FOR ALL CONNECTIONS REPLACED. THE TABLE SHALL ALSO NOTE ANY REVISED CONNECTION MEASUREMENTS AND SIZES. A SAMPLE TABLE WILL BE PROVIDED. THE SUBMISSION SHALL BE IN MICROSOFT EXCEL FORMAT. CLEVELAND WATER SHALL REQUIRE THE DELIVERY AND ACCEPTANCE OF THIS TABLE BEFORE THE PRESSURE TEST AND CHLORINATION / DISINFECTION OF THE MAIN WILL BE PERMITTED.

23. NEW WATER SERVICE CONNECTIONS LOCATIONS SHOWN ON THESE DRAWINGS ARE FOR REFERENCE ONLY AND ARE NOT PART OF THE WATER MAIN APPROVAL. THE SPECIFIC LOCATION FOR EACH CONNECTION WILL BE DETERMINED BY CLEVELAND WATER PRIOR TO THE TAPS BEING INSTALLED. ALL PERMITS FOR TAPS AND METERS FOR PARCELS ASSOCIATED WITH THE WATER MAINS INSTALLED ON THIS PROJECT ARE TO BE OBTAINED BY THE LAND OWNER OF SAID IMPROVEMENT PLANS. IT IS THE LAND OWNERS RESPONSIBILITY TO ARRANGE FOR OBTAINING PERMITS FOR ALL WATER SERVICE CONNECTIONS BEFORE ANY SERVICE CONNECTION WORK MAY PROCEED. ALL FEES CAN BE OBTAINED FROM THE CLEVELAND WATER PERMITS AND SALES SECTION AT 216-664-3130 PROMPT #7 OR 216-664-2444 X75209.

ACCOUNTS SHALL BE INITIATED IN THE LAND OWNER'S NAME AS PART OF THE PERMITTING PROCESS. ALL RESPONSIBILITIES ASSOCIATED WITH EACH WATER SERVICE, INCLUDING, THE OWNER SIDE INSPECTIONS, METER SET/METER PIPING INSPECTION AND THE METER INSTALLATION SHALL BE THE RESPONSIBILITY OF SAID OWNER.

METERS INSTALLATIONS WILL NOT BE AUTHORIZED TO BE INSTALLED UNTIL ALL INSPECTIONS HAVE BEEN COMPLETED. ESTIMATED BILLS MAY ENSUE IF A HOME IS IDENTIFIED AS HAVING WATER SERVICE BUT NO METER HAS BEEN INSTALLED. IF NEW OWNERS, ONCE PARCELS ARE SOLD OFF AND TRANSFER TITLE, DO NOT CONTACT CLEVELAND WATER TO ESTABLISH ACCOUNTS IN THEIR NAME, ACCOUNTS AND THEIR ASSOCIATED BILLS WILL REMAIN IN THE NAME OF OUR LAST OWNER OF RECORD WHICH MAY BE THE DEVELOPER OR BUILDER. IT IS THE RESPONSIBILITY OF THE NEW OWNER TO TRANSFER ACCOUNTS INTO THEIR NAME WHEN THE PROPERTIES LEGALLY TRANSFER. UPON TRANSFER OF PROPERTY, SELLER OF PROPERTY MUST COMMUNICATE ALL UNCOMPLETED PORTIONS OF THE REFERENCED RESPONSIBILITIES TO THE NEW OWNER.

24. ONE INCH SERVICE CONNECTIONS SHALL BE PERMITTED TO SERVICE NEW HOMES (AS SHOWN ON APPROVED WATER MAIN EXTENSION PLANS) BASED ON THE FOLLOWING CRITERIA:

- PEAK FLOW DEMANDS DO NOT EXCEED 25 GPM FOR AN INDIVIDUAL HOME/UNIT. INCLUSIVE OF ALL USAGE (DOMESTIC AND/OR IRRIGATION),
- LENGTH OF ONE INCH CONNECTION DOES NOT EXCEED 75 FEET AS MEASURED FROM THE MAIN TO THE POINT OF ENTRY INTO THE PROPOSED HOME/UNIT.
- THE CONNECTIONS DO NOT INCLUDE LIMITED AREA OR NFPA 13D SPRINKLER SYSTEMS

ANY SERVICE REQUESTS DIFFERING FROM THE STATED CRITERIA SHALL REQUIRE THE SUBMITTAL OF A COMPLETE WATER SERVICE APPLICATION FOR EACH WATER SERVICE REQUESTED.

25. ALL CURB VALVE BOXES & METER VAULTS WILL BE INSTALLED IN GRASS AREAS WHEN POSSIBLE. CURB VALVES SHALL BE PLACED APPROXIMATELY 2 FEET OFF THE CURB. CURB VALVES IN EASEMENTS SHALL BE PLACED APPROXIMATELY 3 FEET OFF THE WATER MAIN. IF VALVE BOXES OR METER VAULTS ARE INSTALLED OUTSIDE OF A DEDICATED RIGHT OF WAY OR EASEMENT FOR THE PURPOSES OF WATER SUPPLY, A STANDARD CLEVELAND EASEMENT FOR A VAULT SHALL BE PROVIDED.

EMERGENCIES:

26. IF A WATER MAIN OR SERVICE CONNECTION BREAK OCCURS DURING CONSTRUCTION AND EMERGENCY ASSISTANCE IS REQUIRED, PLEASE NOTIFY CLEVELAND WATER AT 216-664-3060. THIS LINE IS AVAILABLE 24/7/365

GENERAL NOTES

1. THE CONSTRUCTION OF THIS PROJECT SHALL BE GOVERNED BY THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION (O.D.O.T.) CONSTRUCTION AND MATERIAL SPECIFICATIONS, CURRENT EDITION, THE O.D.O.T. STANDARD CONSTRUCTION DRAWINGS, AND THE CITY OF MACEDONIA SPECIFICATIONS AND STANDARD CONSTRUCTION DRAWINGS.
2. ALL DISTURBED GREEN AREAS SHALL BE TOP DRESSED AND RE-SEEDED.
3. CALL OHIO UTILITIES PROTECTION SERVICE BEFORE DIGGING (800-362-2764).
4. ALL STORM SEWERS SHALL BE HIGH DENSITY POLYETHYLENE PIPE (HDPE), SMOOTH LINED, PER O.D.O.T. ITEM 707.33.
5. ELECTRICAL CONDUIT SHALL BE AS RE□UIRED BY THE UTILITY OWNER.
6. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS IN THE ENGINEERING AND BUILDING DEPARTMENTS.
7. THE CONTRACTOR IS RESPONSIBLE FOR ANY ADDITIONAL SILTATION CONTROL MEASURES NECESSARY TO PREVENT SILT FROM LEAVING THE SITE.
8. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF DEMOLITION MATERIAL AND DEBRIS.
9. THE CONTRACTOR IS RESPONSIBLE FOR RETURNING ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITION, OR BETTER.
10. TEMPORARY SOIL EROSION AND SEDIMENT CONTROL WILL BE RE□UIRED IN ACCORDANCE WITH THE CITY OF MACEDONIA ENGINEER'S OFFICE.
11. A PRE CONSTRUCTION MEETING MUST BE HELD AT THE CITY OF MACEDONIA ENGINEER'S OFFICE PRIOR TO STARTING ANY CONSTRUCTION ACTIVITY. IN ADDITION, THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE TO THE CITY OF MACEDONIA BEGINNING WORK TO ARRANGE FOR INSPECTION.
12. A 18 INCH. MINIMUM VERTICAL CLEARANCE SHALL BE MAINTAINED FROM THE OUTSIDE EDGE OF ALL WATER MAIN PIPE TO THE OUTSIDE EDGE OF ALL STORM SEWER PIPE.
13. A 10 FOOT MINIMUM HORI□ONTAL CLEARANCE SHALL BE MAINTAINED FROM THE OUTSIDE EDGE OF ALL WATER MAIN PIPE TO THE OUTSIDE EDGE OF ALL STORM SEWER PIPE.
14. AN 18 INCH MINIMUM VERTICAL CLEARANCE SHALL BE MAINTAINED FROM THE OUTSIDE EDGE OF ALL WATER MAIN PIPE TO THE OUTSIDE EDGE OF ALL SANITARY SEWER.

SANITARY SEWERS

1. ALL SANITARY SEWERS AND APPURTENANCES SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH CURRENT STANDARDS AND SPECIFICATIONS (OEPA 3MA00001□AM) OF THE SUMMIT COUNTY DEPARTMENT OF SANITARY SEWER SERVICES (D.S.S.S.).
2. ROOF DRAINS, FOUNDATION DRAINS AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED. ORD. 85-656 APPROVED 10/08/85.
3. APPROVAL BY THE D.S.S.S. OFFICE CONSTITUTES NEITHER EXPRESS NOR IMPLIED WARRANTIES AS TO THE FITNESS, ACCURACY, OR SUFFICIENCY OF PLANS, DESIGNS OR SPECIFICATIONS.
4. THE DESIGN ENGINEER CERTIFIES THAT ALL UTILITIES IN EXISTING AND PROPOSED ROADS AND EASEMENTS ARE SHOWN.
5. ALL SANITARY SEWERS SHALL PASS THE AIR ACCEPTANCE TEST PRIOR TO ACCEPTANCE BY D.S.S.S.
6. ALL SANITARY SEWERS SHALL BE VIDEO TAPED BY THE OWNER AND FOUND TO BE FREE OF DEFECTS AND FOREIGN MATTER AND IN PROPER ALIGNMENT PRIOR TO FORMAL ACCEPTANCE BY THE D.S.S.S.
7. ALL MANHOLES SHALL BE SUPPLIED WITH SOLID COVERS.
8. ALL SANITARY SEWER LATERALS SHALL BE LAID AT NO LESS THAN 1□ GRADE.
9. ALL SANITARY SEWER LATERALS SHALL BE EXTENDED TO NOT LESS THAN 15 FEET INTO PROPERTY.
10. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL DAMAGE TO THE EXISTING SEWERAGE SYSTEM RESULTING FROM NON-CONFORMANCE WITH SUMMIT COUNTY STANDARDS OR GENERAL NEGLIGENCE.
11. ADJUSTMENT OF MANHOLES IS PERMITTED WITH PRECAST GRADE RINGS OR INFRA-RISERS.
12. WHERE INLET AND OUTLET PIPES CONNECT TO MANHOLES A FLEXIBLE WATERTIGHT JOINT AS APPROVED BY THE D.S.S.S. IS RE□UIRED.
13. SANITARY SEWER MATERIALS SHALL CONSIST OF PVC SDR-35 MEETING ASTM D-3034 WITH JOINTS CONFORMING TO ASTM D-3212 AND CONFORM TO D.S.S.S. STANDARDS, UNLESS OTHERWISE NOTED. REFER TO STANDARDS FOR APPROVED MATERIAL AND ASTM SECTIONS.
14. THE OWNER (CONTRACTOR) MUST ALERT THE UTILITIES PROTECTION SERVICES AT 1-800-362-2764 AT LEAST 48 HOURS BEFORE ANY EXCAVATING HAS BEGUN.
15. ALL ROUGH GRADING (WITHIN 6" OF FINISHED GRADE) SHALL BE COMPLETED WITHIN THE RIGHT-OF-WAY PRIOR TO SANITARY SEWER AND CONSTRUCTION.
16. NO SEWER CONSTRUCTION WILL BE PERMITTED UNTIL SUCH TIME THAT THE PLANS ARE APPROVED BY D.S.S.S. AND O.E.P.A., INCLUDING, PAYMENT OF REVIEW AND "PERMIT TO INSTALL" FEES AS RE□UIRED BY O.E.P.A.
17. ALL SANITARY SEWERS CONTAINED HEREIN ARE TO BE PUBLICLY OWNED AND MAINTAINED.
18. ALL SEWER RUN DISTANCE GIVEN ARE FROM CENTERLINE TO CENTERLINE OF MANHOLES. ALL PIPE INVERT ELEVATIONS GIVEN AT MANHOLES ARE AT CENTERLINE OF MANHOLE. SEWER GRADES ARE ESTABLISHED FROM CENTERLINE OF MANHOLE AND CARRIED THROUGH MANHOLE INVERT TO ASSURE FLOW THROUGH MANHOLE.
19. ALL UNDERGROUND LINES ENCOUNTERED BY CONSTRUCTION OF SANITARY SYSTEM ARE TO BE COMPLETELY RESTORED AT THE EXPENSE OF THE CONTRACTOR.
20. COST OF WYES AND STUBS TO BE INCLUDED IN PRICE BID PER LINEAR FOOT OF SANITARY SEWER.
21. COST OF ANY SHEETING OR DEWATERING NECESSARY FOR INSTALLATION OF SANITARY SEWER AND SHALL BE INCLUDED IN PRICE BID PER LINEAR FOOT OF RESPECTIVE ITEMS. ALSO ANY FOUNDATION SLAG RE□UIRED.
22. ALL NECESSARY PIPE BEDDING, TRENCH BACKFILL, DRIVE AND CULVERT REPLACEMENTS SHALL BE INCLUDED IN THE PRICE BID PER LINEAR FEET OF SANITARY SEWER AND SANITARY FORCEMAIN.
23. AN EXTERNAL CHIMNEY SEAL SHALL BE INSTALLED ON ALL NEW MANHOLES.
24. AN INFLOW PREVENTER SHALL BE INSTALLED IN EACH MANHOLE.
25. SANITARY SEWER MATERIALS SHALL CONFORM TO D.S.S.S. AND O.E.P.A. STANDARDS.
26. MANHOLE COVER INSERTS SHALL BE PROVIDED FOR ALL MANHOLES.

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PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

GENERAL NOTES

C100A
Project No. 2024-317

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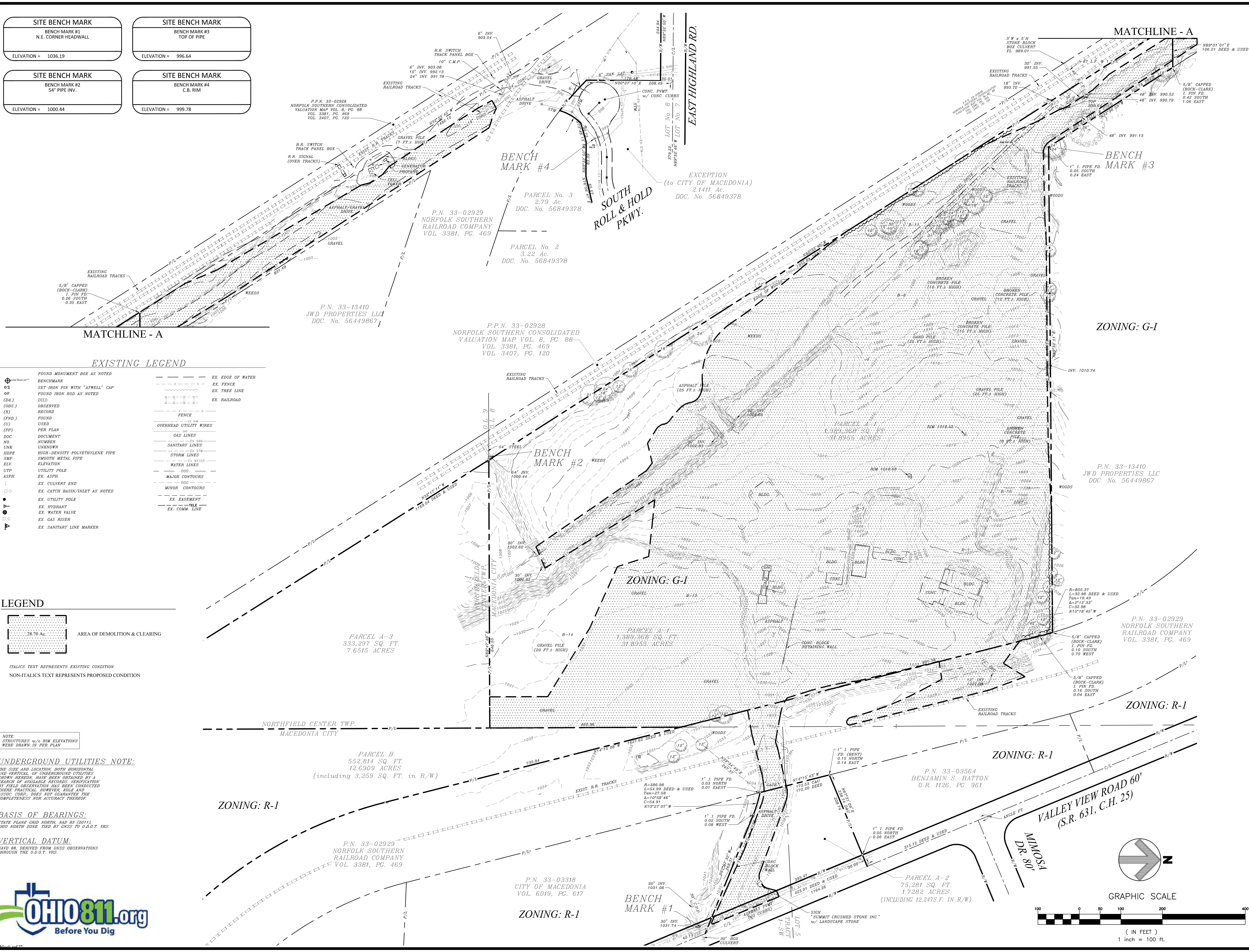
SITE BENCH MARK	
BENCH MARK #1 N.E. CORNER HEADWALL	ELEVATION = 1036.19

SITE BENCH MARK	
BENCH MARK #3 TOP OF PIPE	ELEVATION = 996.64

SITE BENCH MARK	
BENCH MARK #2 54" PIPE INV.	ELEVATION = 1000.44

SITE BENCH MARK	
BENCH MARK #4 C.B. RIM	ELEVATION = 999.78



EXISTING LEGEND

Symbol	Description
	FOUND MONUMENT BOX AS NOTED
	BENCHMARK
	SET IRON PIN WITH "ATWELL" CAP
	FOUND IRON ROD AS NOTED
(D4.)	DEED
(OBS.)	OBSERVED
(R)	RECORD
(FND.)	FOUND
(U)	USED
(PP)	PER PLAN
DOC.	DOCUMENT
NO.	NUMBER
UNK	UNKNOWN
HDPE	HIGH-DENSITY POLYETHYLENE PIPE
SMP	SMOOTH METAL PIPE
ELV.	ELEVATION
UTP	UTILITY POLE
ASPH.	EX. ASPH.
	EX. CULVERT END
	EX. CATCH BASIN/INLET AS NOTED
	EX. UTILITY POLE
	EX. HYDRANT
	EX. WATER VALVE
	EX. GAS RISER
	EX. SANITARY LINE MARKER

EX. EDGE OF WATER
EX. FENCE
EX. TREE LINE
EX. RAILROAD
FENCE
OVERHEAD UTILITY WIRES
GAS LINES
SANITARY LINES
STORM LINES
WATER LINES
MAJOR CONTOURS
MINOR CONTOURS
EX. EASEMENT
EX. COMM. LINE

LEGEND

28.70 Ac. — AREA OF DEMOLITION & CLEARING

ITALICS TEXT REPRESENTS EXISTING CONDITION

NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

NOTE: STRUCTURES w/o RIM ELEVATIONS WERE DRAWN IN PER PLAN

UNDERGROUND UTILITIES NOTE:

THE SIZE AND LOCATION, BOTH HORIZONTAL AND VERTICAL, OF UNDERGROUND UTILITIES SHOWN HEREON, HAVE BEEN OBTAINED BY A SEARCH OF AVAILABLE RECORDS. VERIFICATION BY FIELD OBSERVATION HAS BEEN CONDUCTED WHERE PRACTICAL. HOWEVER, KOLE AND ASSOC. CORP., DOES NOT GUARANTEE THE COMPLETENESS NOR ACCURACY THEREOF.

BASIS OF BEARINGS:

STATE PLANE GRID NORTH, NAD 83 (2011), OHIO NORTH ZONE. TIED BY GNSS TO O.D.O.T. VRS.

VERTICAL DATUM:

NAVD 88, DERIVED FROM GNSS OBSERVATIONS THROUGH THE O.D.O.T. VRS.

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JEN DIASIO
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OWNER:
PEAK NANO FILM MANUFACTURING
7700 HUB PARKWAY, SUITE
VALLEY VIEW, OHIO
MIKE HUS
PHONE: (989) 750-3878

PNFM SITE DEVELOPMENT MACEDONIA, OHIO

Issue Date
02-21-2025
03-17-2025
03-28-2025

DEMOLITION PLAN

C101

Project No. 2024-317

SITE BENCH MARK	SITE BENCH MARK
BENCH MARK #1 N.E. CORNER HEADWALL	BENCH MARK #3 TOP OF PIPE
ELEVATION = 1036.19	ELEVATION = 996.64
SITE BENCH MARK	**SITE BENCH MARK**
BENCH MARK #2 54" PIPE INV.	BENCH MARK #4 C.B. RIM
ELEVATION = 1000.44	ELEVATION = 999.78

SITE DATA

USE DISTRICT	G-I (GENERAL INDUSTRIAL)
SITE AREA	27.8 AC.
PROP. BUILDING AREA	238,070 S.F. (FOOTPRINT)

BUILDING SETBACKS:

FRONT YARD	75'
SIDE YARD	15'
REAR YARD	15'

NUMBER OF PARKING SPACES:

HANDICAP PARKING SPACES	5
REGULAR PARKING SPACES	124
TOTAL PARKING SPACES	129

FLOOD ZONE

FLOOD ZONE "X" PER FLOOD INSURANCE
RATE MAP NUMBER 39153C0061E
EFFECTIVE DATE JULY 20, 2009

LEGEND

- REGULAR DUTY ASPHALT
- HEAVY DUTY ASPHALT
- CONCRETE PAVING

ITALICS TEXT REPRESENTS EXISTING CONDITION
NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

MATCHLINE - A

P.P.N. 33-02928
NORFOLK SOUTHERN CONSOLIDATED
VALUATION MAP VOL. 8, PG. 88
VOL. 3381, PG. 469
VOL. 3407, PG. 120

P.N. 33-02929
NORFOLK SOUTHERN
RAILROAD COMPANY
VOL. 3381, PG. 469

P.N. 33-13410
JWD PROPERTIES LLC
DOC. No. 56449867

PARCEL No. 3
2.79 Ac.
DOC. No. 56849378

PARCEL No. 2
3.22 Ac.
DOC. No. 56849378

EXCEPTION
(to CITY OF MACEDONIA)
2.1411 Ac.
DOC. No. 56849378

SOUTH ROLL & HOLD PKWY.

EAST HIGHLAND RD.

LOT No. 8 / LOT No. 7

BENCH MARK #4

BENCH MARK #3

BENCH MARK #2

BENCH MARK #1

PROPOSED BUILDING
238,920 S.F.
F.F. 1022.00

PARCEL A-1
1,389,368 SQ. FT.
31.8955 ACRES

PARCEL A-2
75,281 SQ. FT.
1.7282 ACRES
(INCLUDING 12,247S.F. IN R/W)

PARCEL A-3
333,297 SQ. FT.
7.6515 ACRES

PARCEL B
552,814 SQ. FT.
12.6909 ACRES
(including 3,259 SQ. FT. in R/W)

P.N. 33-03564
BENJAMIN S. BATTON
O.R. 1126, PG. 961

P.N. 33-03318
CITY OF MACEDONIA
VOL. 6019, PG. 617

PROP. STORMWATER MANAGEMENT BASIN

CONC. LOADING DOCK AREAS

AUTO PARKING

PROP. RAIL SPURS

FUTURE BLDG. EXPANSION AREAS

DRIVE-IN

ZONING: G-I

ZONING: R-1

VALLEY VIEW ROAD 60' (S.R. 631, C.H. 25)

MIMOSA DR. 80'

NORTHFIELD CENTER TWP. / MACEDONIA CITY

EXISTING RAILROAD TRACKS

EXIST. R.R. TRACKS

WOODS

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

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OWNER:

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VALLEY VIEW, OHIO
MIKE HUS
PHONE: (989) 750-3878

PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

Issue Date
02-21-2025
03-17-2025
03-28-2025

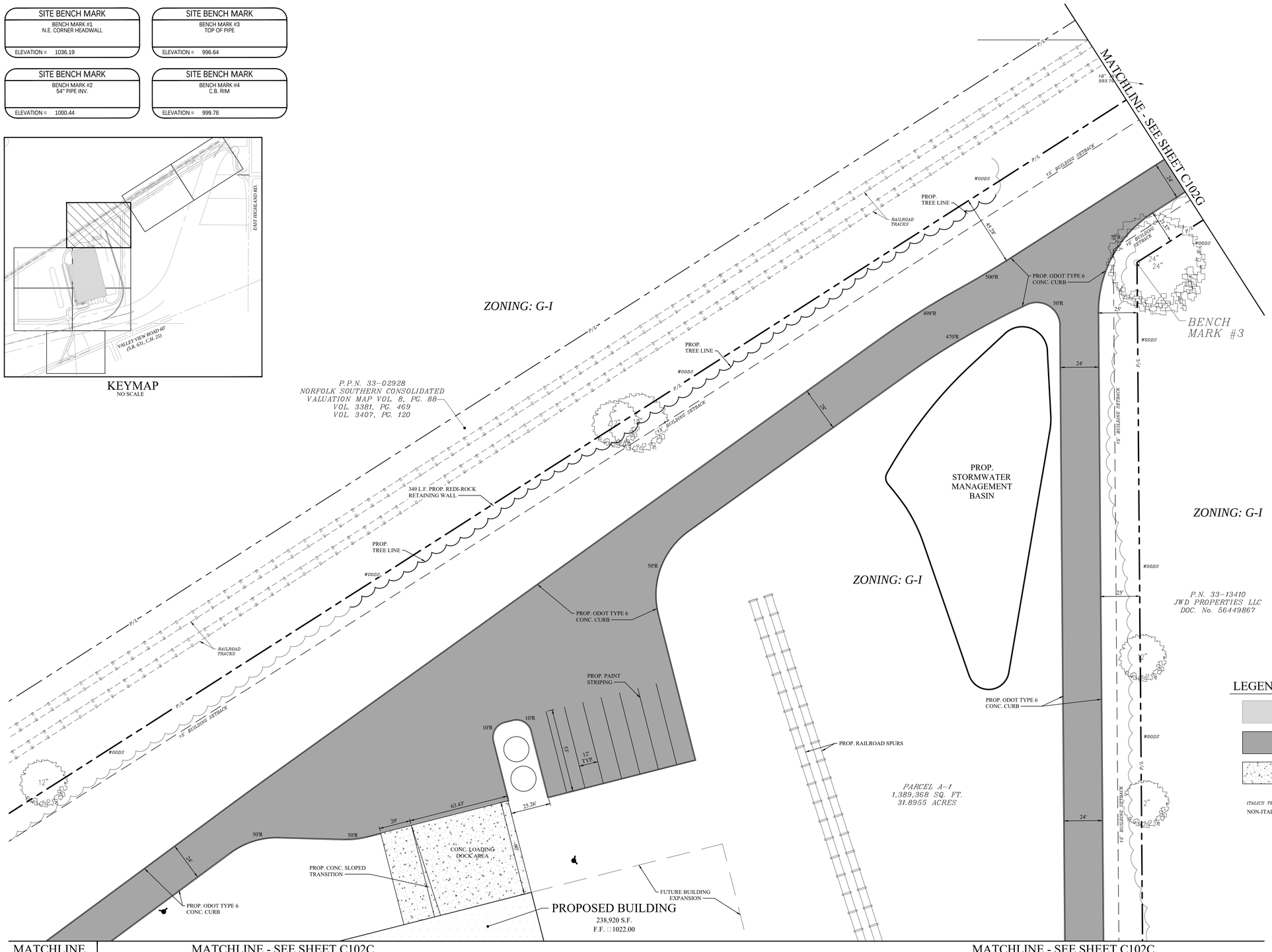
OVERALL SITE PLAN

C102

Project No. 2024-317

SITE BENCH MARK	SITE BENCH MARK
BENCH MARK #1 N.E. CORNER HEADWALL	BENCH MARK #3 TOP OF PIPE
ELEVATION = 1036.19	ELEVATION = 996.64
SITE BENCH MARK	**SITE BENCH MARK**
BENCH MARK #2 54" PIPE INV.	BENCH MARK #4 C.B. RIM
ELEVATION = 1000.44	ELEVATION = 999.78

KEYMAP
NO SCALE



LEGEND

- REGULAR DUTY ASPHALT
- HEAVY DUTY ASPHALT
- CONCRETE PAVING

ITALICS TEXT REPRESENTS EXISTING CONDITION
NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

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PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

Issue Date
02-21-2025
03-17-2025
03-28-2025

PARTIAL SITE PLAN

C102A
Project No. 2024-317

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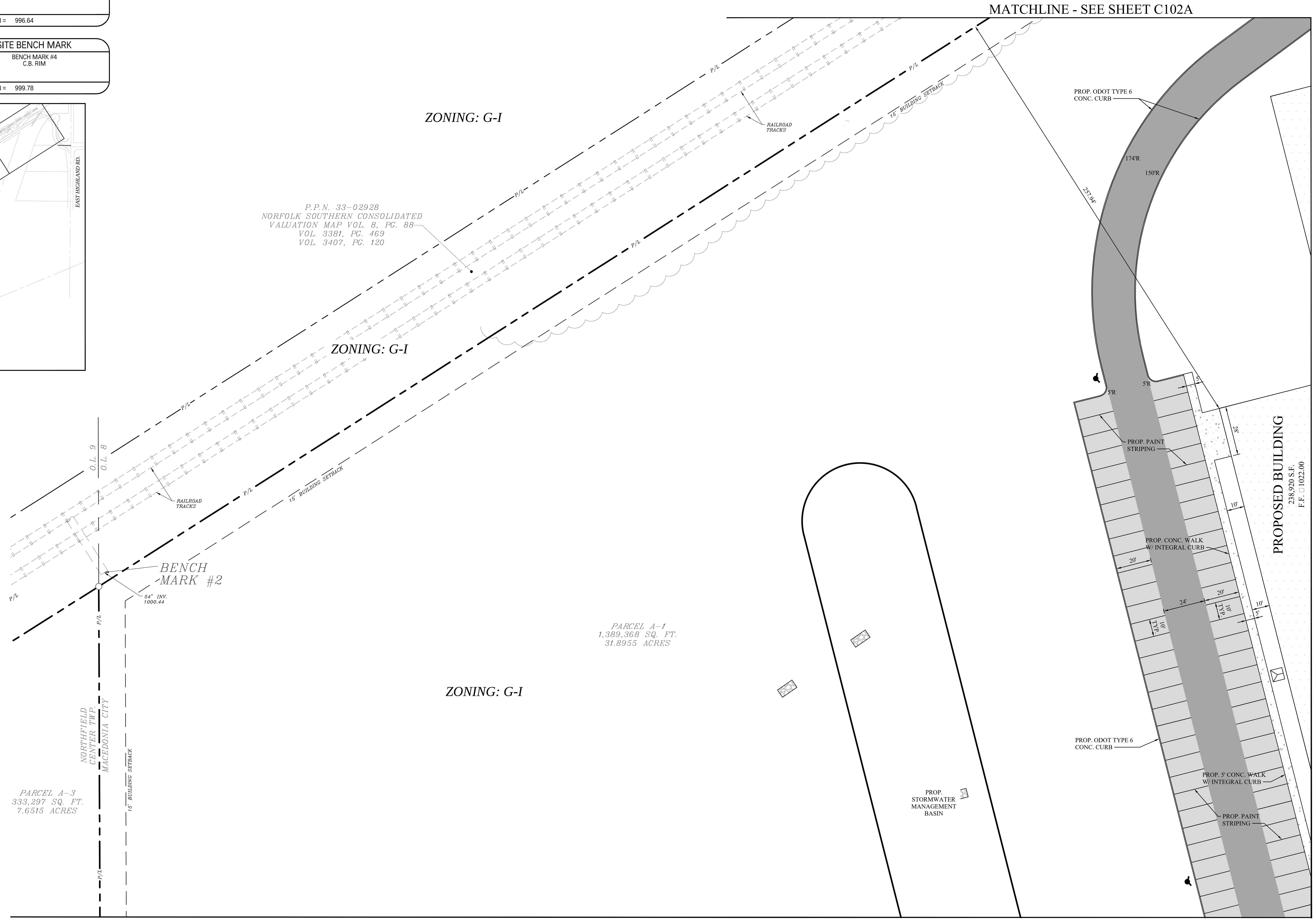
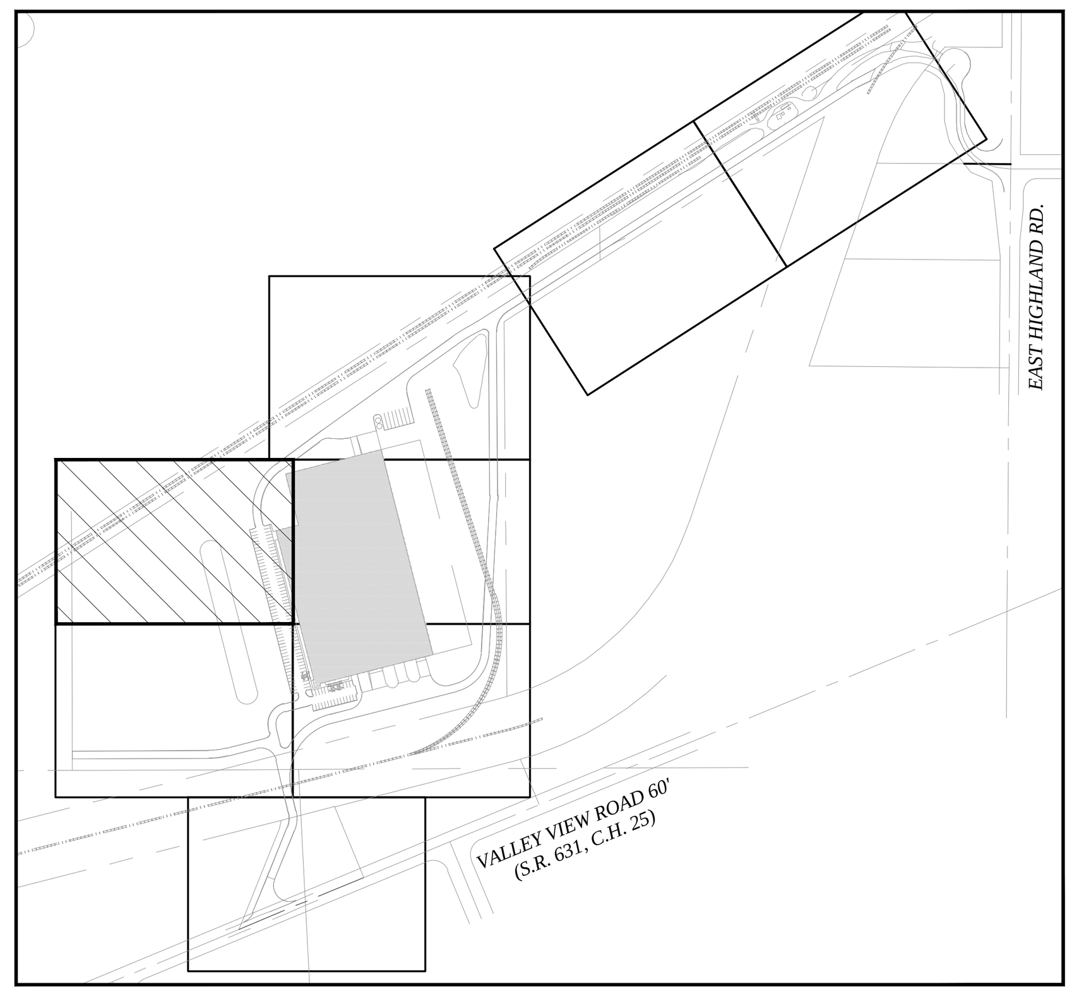


SITE BENCH MARK	
BENCH MARK #1 N.E. CORNER HEADWALL	ELEVATION = 1036.19
BENCH MARK #2 54" PIPE INV.	ELEVATION = 1000.44
BENCH MARK #3 TOP OF PIPE	ELEVATION = 996.64
BENCH MARK #4 C.B. RIM	ELEVATION = 999.78



KEYMAP
NO SCALE

LEGEND

- REGULAR DUTY ASPHALT
- HEAVY DUTY ASPHALT
- CONCRETE PAVING

ITALICS TEXT REPRESENTS EXISTING CONDITION
NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

GRAPHIC SCALE
(IN FEET)
1 inch = 30 ft.

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PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

PARTIAL SITE PLAN

C102B
Project No. 2024-317

MATCHLINE - SEE SHEET C102A

MATCHLINE - SEE SHEET C102A

MATCHLINE - SEE SHEET C102B

MATCHLINE - SEE SHEET C102B

PROPOSED BUILDING
238,920 S.F.
F.F. = 1022.00

ZONING: G-1

PROP. BUILDING EXPANSION AREA

PARCEL A-1
1,389,368 SQ. FT.
31.8955 ACRES

PROP. RAILROAD SPURS

PROP. ODOT TYPE 6 CONC. CURB

END PROP. CURB TAPER FROM 6" TO 0" IN 3 FEET

END PROP. CURB TAPER FROM 6" TO 0" IN 3 FEET

PROP. ODOT TYPE 6 CONC. CURB

PROP. TREE LINE

WOODS

15' BUILDING SETBACK

24'

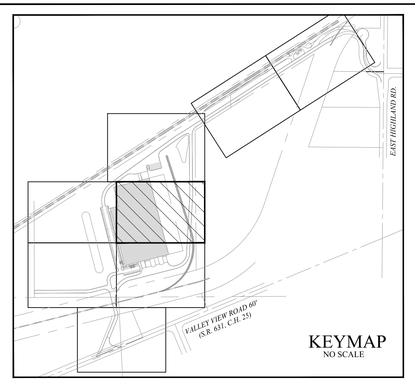
25'

P.N. 33-13410
JWD PROPERTIES LLC
DOC. No. 56449867

10'

MATCHLINE - SEE SHEET C102E

MATCHLINE - SEE SHEET C102E



KEYMAP
NO SCALE

LEGEND

- REGULAR DUTY ASPHALT
- HEAVY DUTY ASPHALT
- CONCRETE PAVING

ITALICS TEXT REPRESENTS EXISTING CONDITION
NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

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SITE BENCH MARK	
BENCH MARK #1 N.E. CORNER HEADWALL	
ELEVATION =	1036.19

SITE BENCH MARK	
BENCH MARK #2 54" PIPE INV.	
ELEVATION =	1000.44

SITE BENCH MARK	
BENCH MARK #3 TOP OF PIPE	
ELEVATION =	996.64

SITE BENCH MARK	
BENCH MARK #4 C.B. RIM	
ELEVATION =	999.78

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PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

Issue Date
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03-17-2025
03-28-2025

PARTIAL SITE PLAN

C102C
Project No. 2024-317

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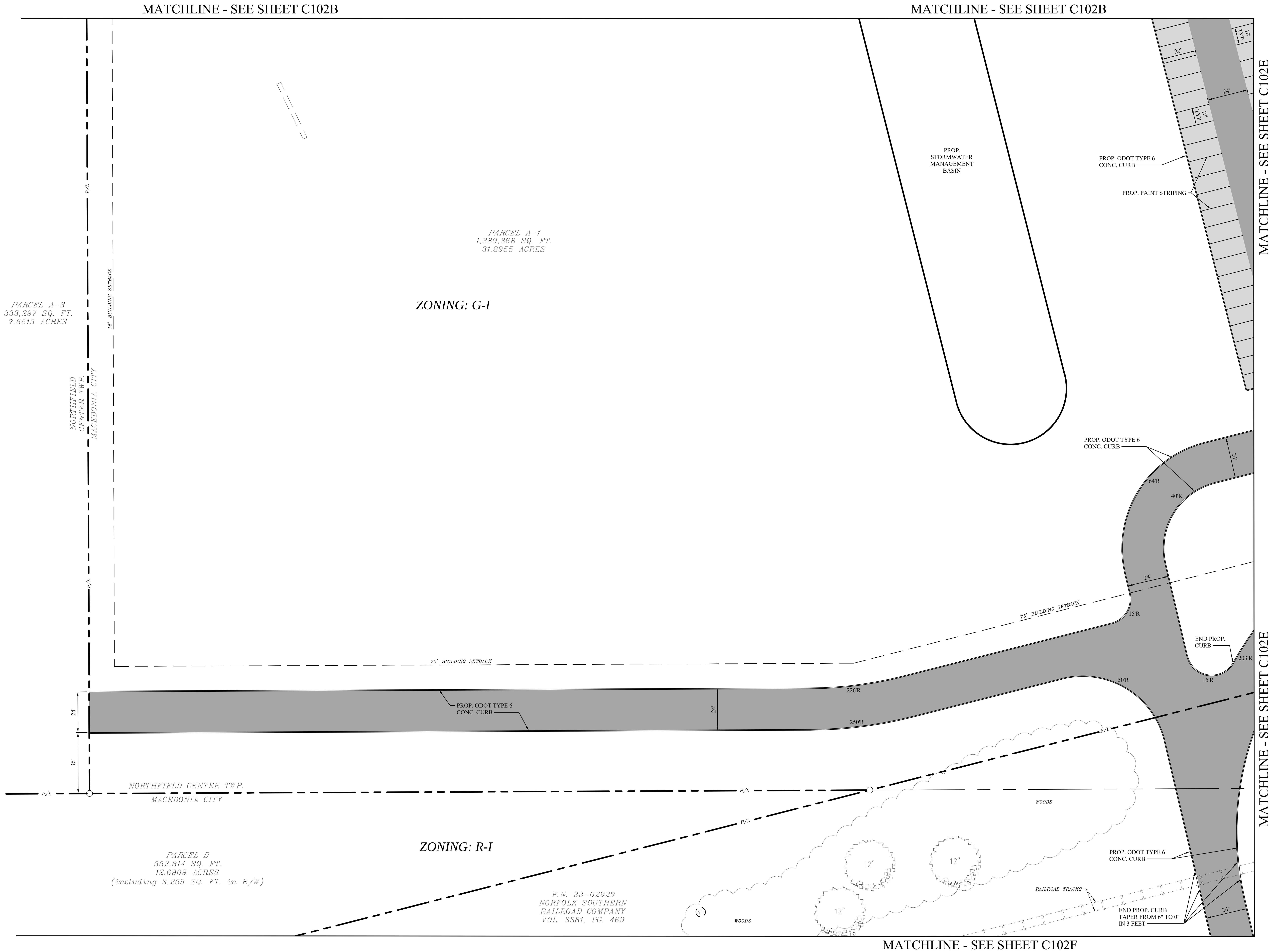
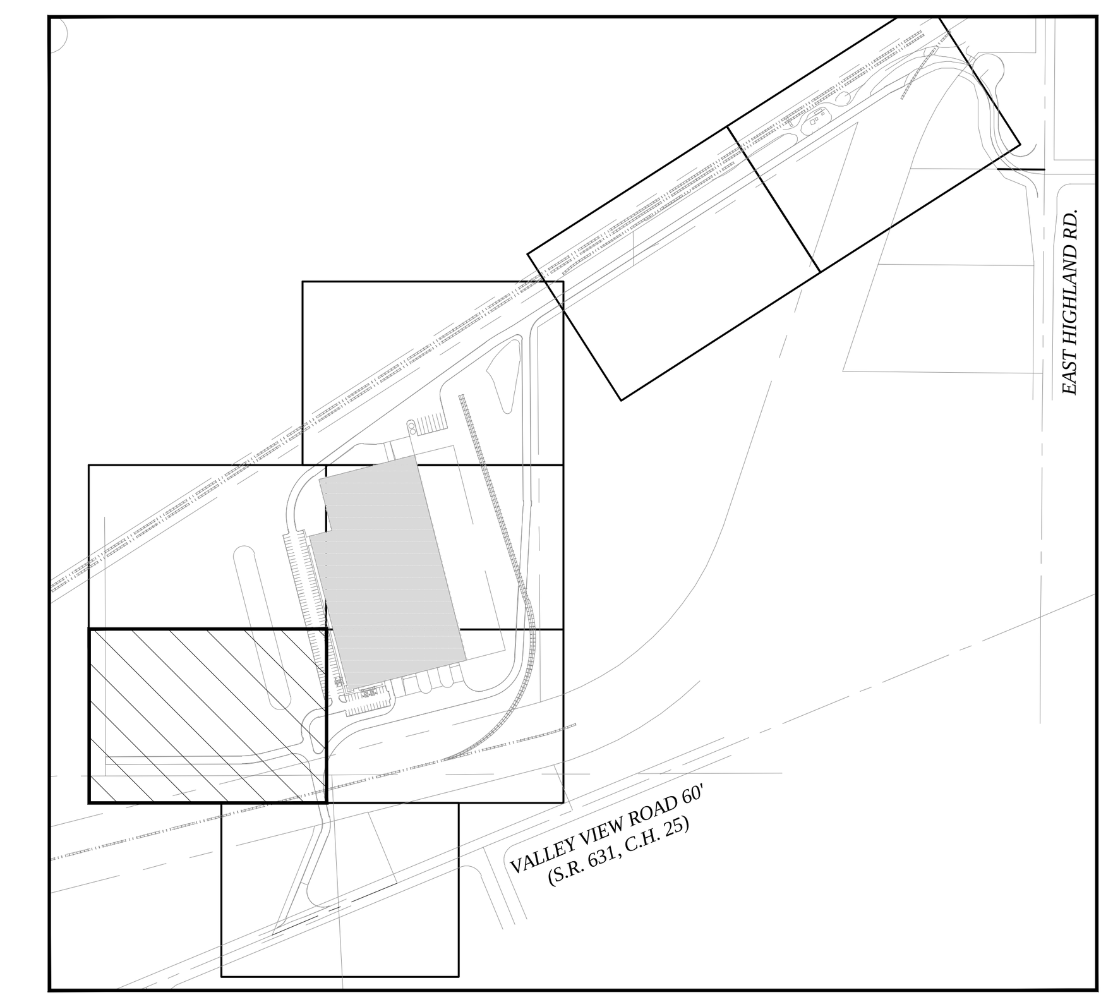


SITE BENCH MARK
BENCH MARK #1 N.E. CORNER HEADWALL
ELEVATION = 1036.19

SITE BENCH MARK
BENCH MARK #2 54" PIPE INV.
ELEVATION = 1000.44

SITE BENCH MARK
BENCH MARK #3 TOP OF PIPE
ELEVATION = 996.64

SITE BENCH MARK
BENCH MARK #4 C.B. RIM
ELEVATION = 999.78



KEYMAP
NO SCALE

LEGEND

- REGULAR DUTY ASPHALT
- HEAVY DUTY ASPHALT
- CONCRETE PAVING

ITALICS TEXT REPRESENTS EXISTING CONDITION
NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

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SITE DEVELOPMENT
MACEDONIA, OHIO

Issue Date
02-21-2025
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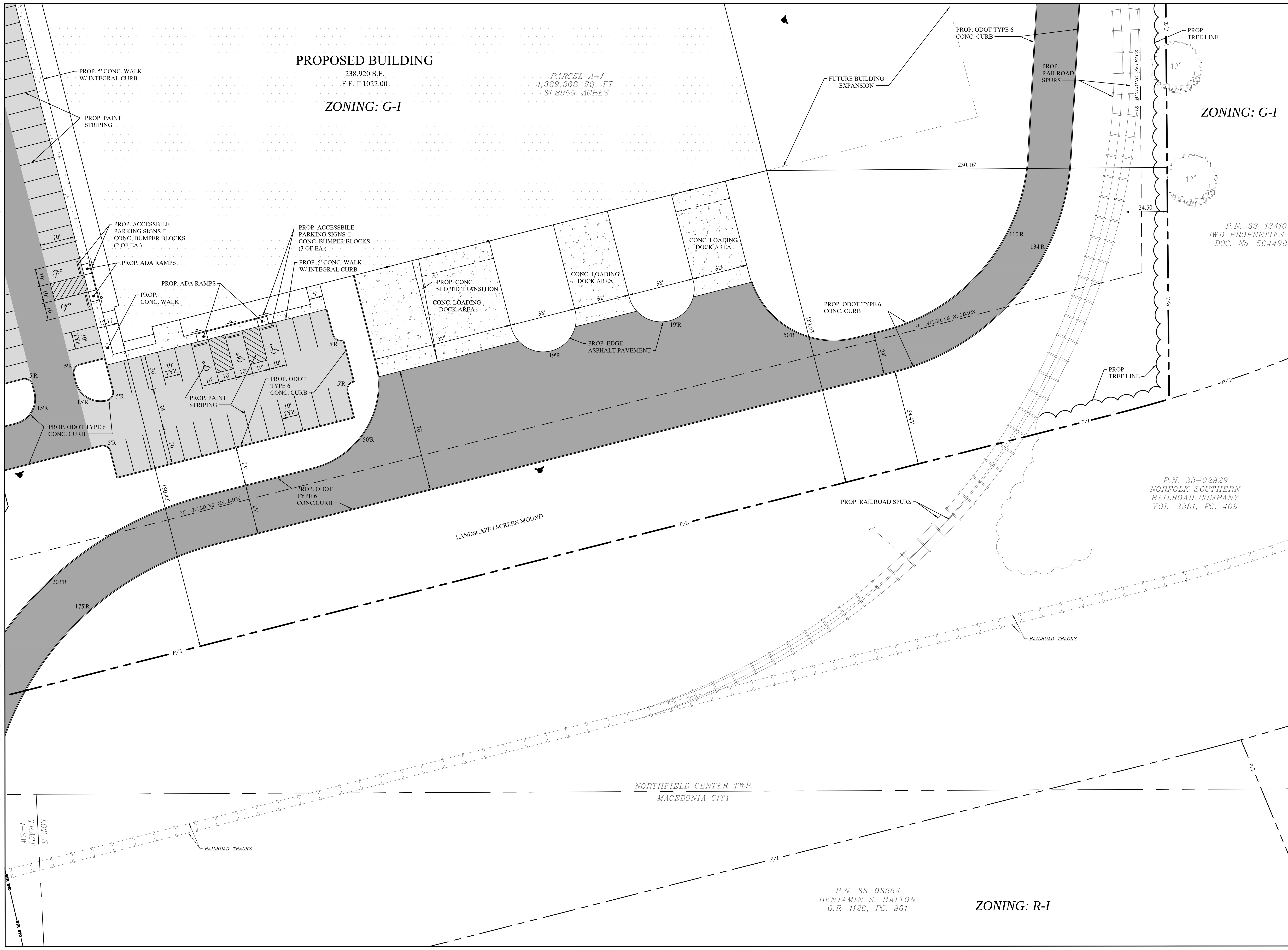
PARTIAL SITE PLAN

C102D
Project No. 2024-317

MATCHLINE - SEE SHEET C102C

MATCHLINE - SEE SHEET C102D



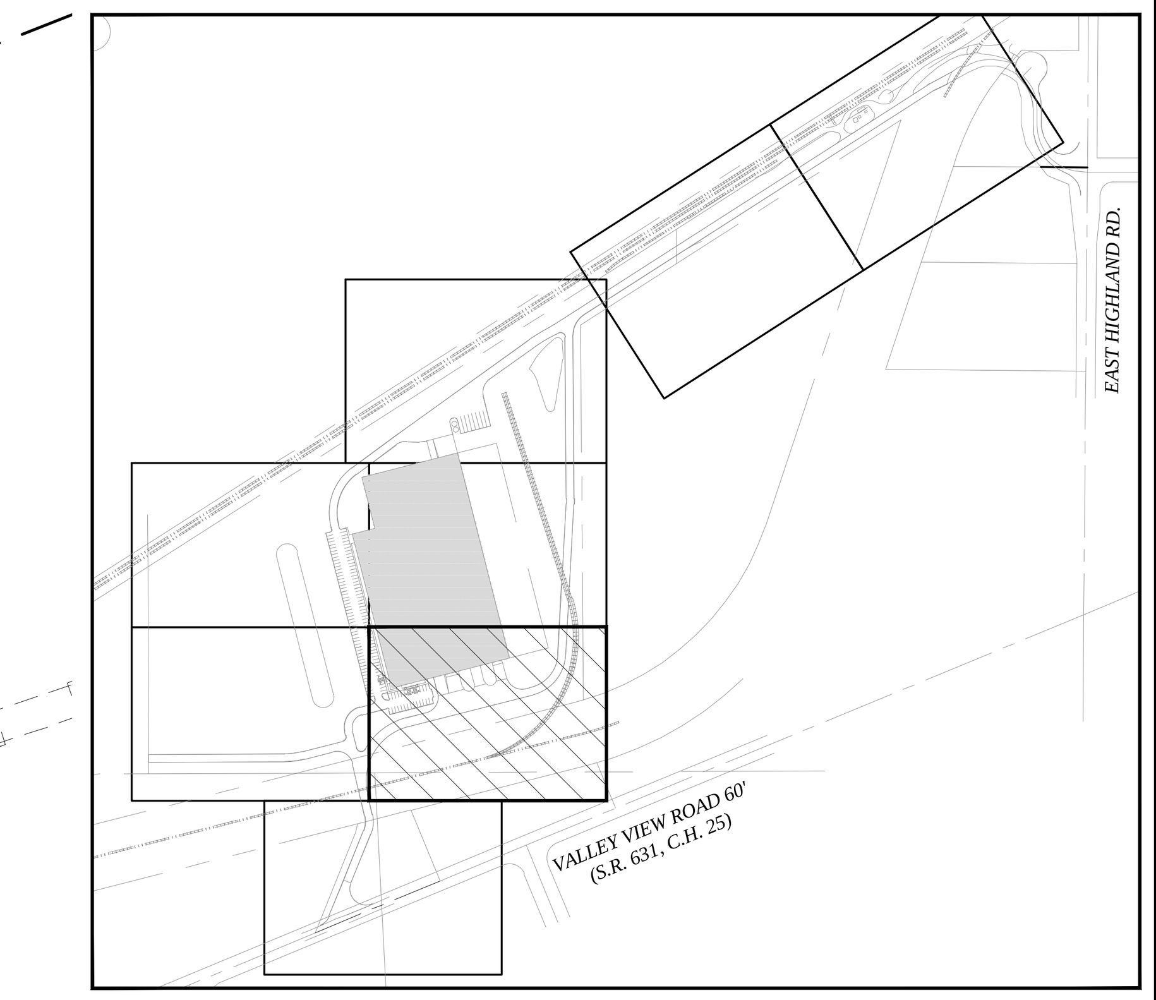
MATCHLINE - SEE SHEET C102F

SITE BENCH MARK	
BENCH MARK #1 N.E. CORNER HEADWALL	
ELEVATION =	1036.19

SITE BENCH MARK	
BENCH MARK #2 54" PIPE INV.	
ELEVATION =	1000.44

SITE BENCH MARK	
BENCH MARK #3 TOP OF PIPE	
ELEVATION =	996.64

SITE BENCH MARK	
BENCH MARK #4 C.B. RIM	
ELEVATION =	999.78



KEYMAP
NO SCALE

LEGEND

- REGULAR DUTY ASPHALT
- HEAVY DUTY ASPHALT
- CONCRETE PAVING

ITALICS TEXT REPRESENTS EXISTING CONDITION
NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

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Issue Date
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PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

PARTIAL SITE PLAN

C102E
Project No. 2024-317

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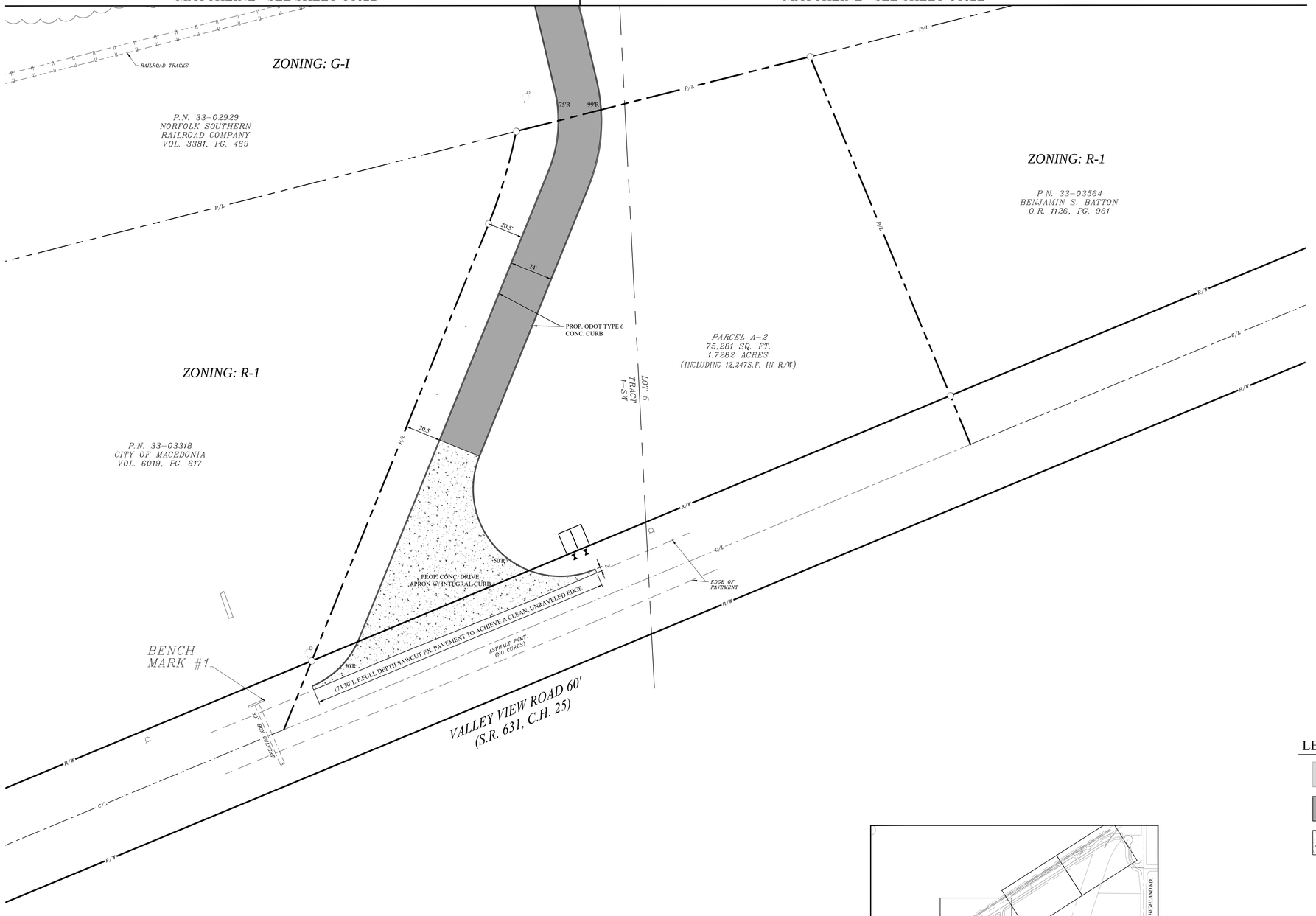
MATCHLINE - SEE SHEET C102D

MATCHLINE - SEE SHEET C102E

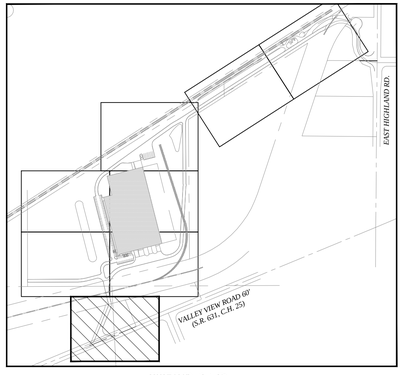


SITE BENCH MARK
BENCH MARK #1 N.E. CORNER HEADWALL
ELEVATION = 1036.19

SITE BENCH MARK
BENCH MARK #2 54" PIPE INV.
ELEVATION = 1000.44

SITE BENCH MARK
BENCH MARK #3 TOP OF PIPE
ELEVATION = 996.64

SITE BENCH MARK
BENCH MARK #4 C.B. RIM
ELEVATION = 999.78



KEYMAP
NO SCALE

LEGEND

- REGULAR DUTY ASPHALT
- HEAVY DUTY ASPHALT
- CONCRETE PAVING

ITALICS TEXT REPRESENTS EXISTING CONDITION
NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

N

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

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MACEDONIA, OHIO

Issue Date
02-21-2025
03-17-2025
03-28-2025

PARTIAL SITE PLAN

C102F
Project No. 2024-317

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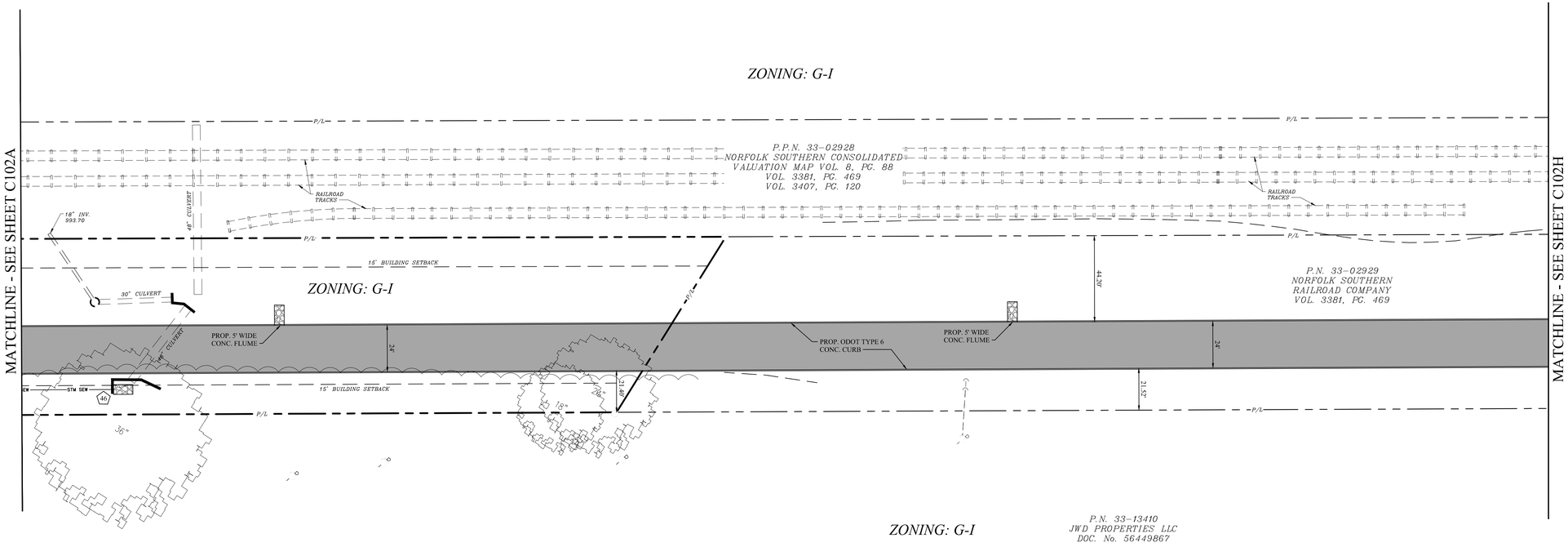

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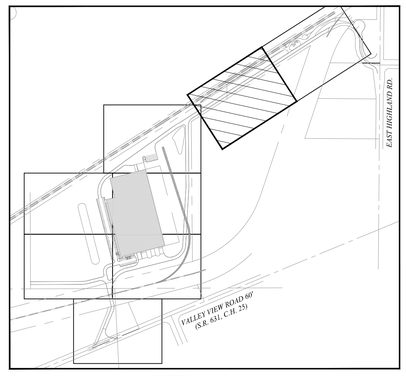
ELEVATION = 1036.19

SITE BENCH MARK
BENCH MARK #2 54" PIPE INV.
ELEVATION = 1000.44

SITE BENCH MARK
BENCH MARK #3 TOP OF PIPE
ELEVATION = 996.64

SITE BENCH MARK
BENCH MARK #4 C.B. RIM
ELEVATION = 999.78



KEYMAP
NO SCALE

LEGEND

- REGULAR DUTY ASPHALT
- HEAVY DUTY ASPHALT
- CONCRETE PAVING

ITALICS TEXT REPRESENTS EXISTING CONDITION
NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

N

GRAPHIC SCALE
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(IN FEET)
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PHONE: (989) 750-3878

PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

Issue Date
02-21-2025
03-17-2025
03-28-2025

PARTIAL SITE PLAN

C102G
Project No. 2024-317

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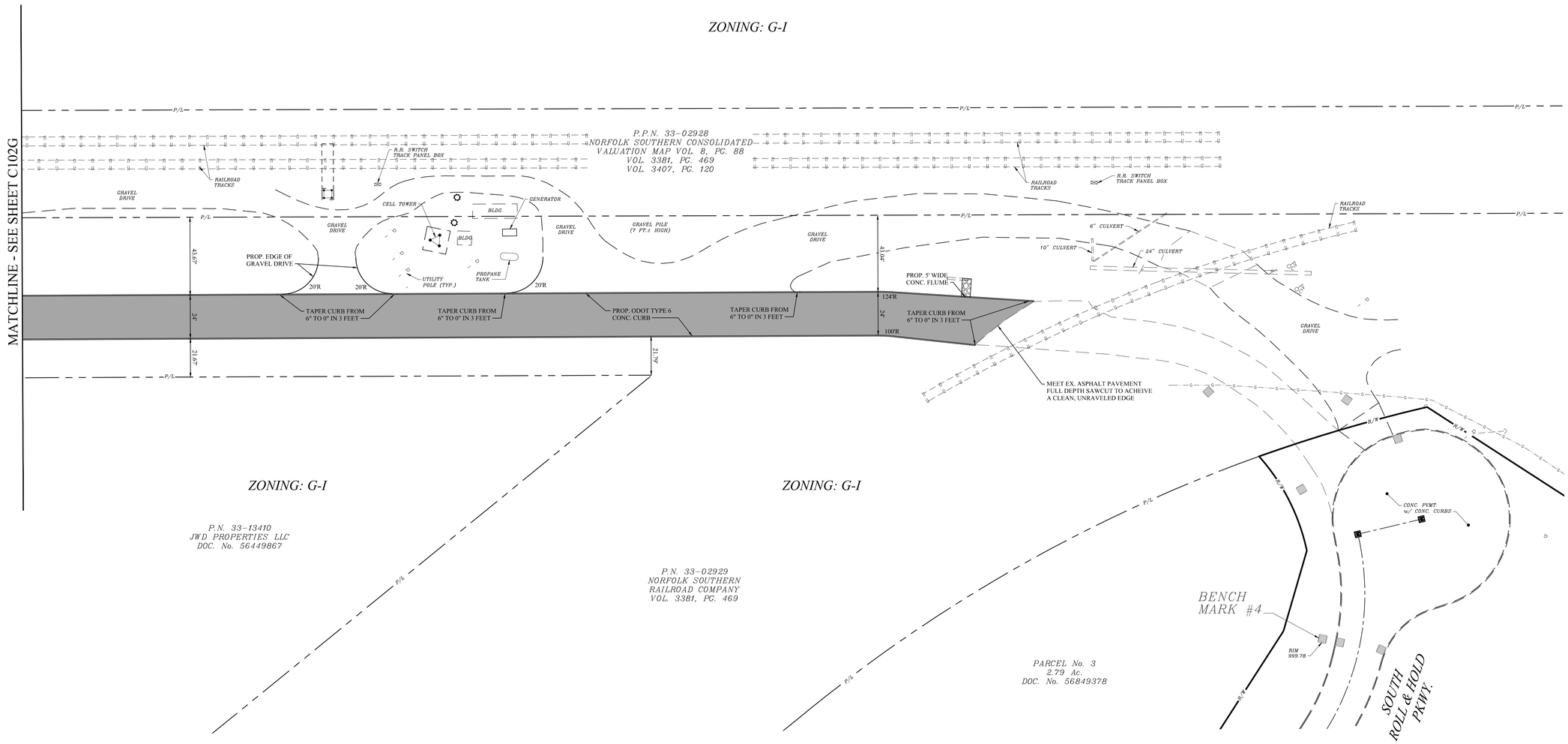


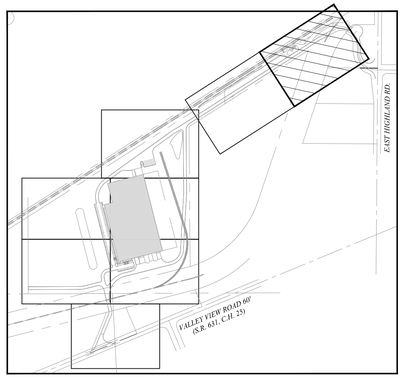
SITE BENCH MARK	
BENCH MARK #1 N.E. CORNER HEADWALL	
ELEVATION =	1036.19

SITE BENCH MARK	
BENCH MARK #2 54" PIPE INV.	
ELEVATION =	1000.44

SITE BENCH MARK	
BENCH MARK #3 TOP OF PIPE	
ELEVATION =	996.64

SITE BENCH MARK	
BENCH MARK #4 C.B. RIM	
ELEVATION =	999.78

OHIO811.org Before You Dig



KEYMAP
NO SCALE

LEGEND

- REGULAR DUTY ASPHALT
- HEAVY DUTY ASPHALT
- CONCRETE PAVING

ITALICS TEXT REPRESENTS EXISTING CONDITION
NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

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MATTHEW L WEBER
61709
REGISTERED
PROFESSIONAL ENGINEER

Reg. No.: 61709

CLIENT:

GEIS CONSTRUCTION

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JEN DIASIO
PHONE: (216) 218-3507

OWNER:

PEAK NANO FILM MANUFACTURING

7700 HUB PARKWAY, SUITE
VALLEY VIEW, OHIO
MIKE HUS
PHONE: (989) 750-3878

PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

Issue Date
02-21-2025
03-17-2025
03-28-2025

PARTIAL SITE PLAN

C102H
Project No. 2024-317

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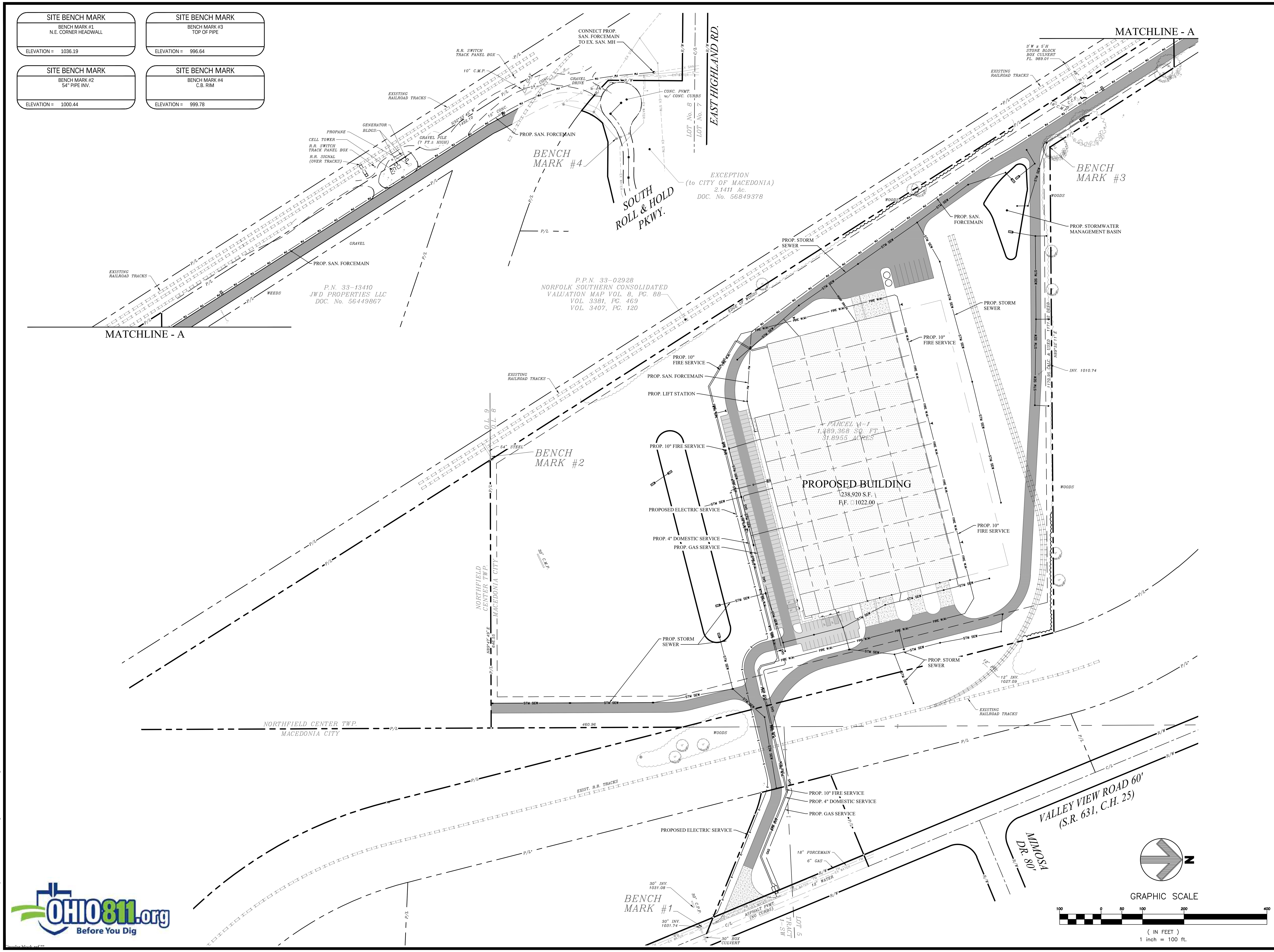
SITE BENCH MARK	
BENCH MARK #1 N.E. CORNER HEADWALL	ELEVATION = 1036.19
BENCH MARK #2 54" PIPE INV.	ELEVATION = 1000.44

SITE BENCH MARK	
BENCH MARK #3 TOP OF PIPE	ELEVATION = 996.64
BENCH MARK #4 C.B. RIM	ELEVATION = 999.78



MATCHLINE - A
MATCHLINE - A
EAST HIGHLAND RD.
SOUTH ROLL & HOLD PKWY.
VALLEY VIEW ROAD 60' (S.R. 631, C.H. 25)
MIMOSA DR. 80'
CONNECT PROP. SAN. FORCEMAIN TO EX. SAN. MH
PROP. SAN. FORCEMAIN
EXISTING RAILROAD TRACKS
BENCH MARK #1
BENCH MARK #2
BENCH MARK #3
BENCH MARK #4
EXCEPTION (to CITY OF MACEDONIA) 2.1411 Ac. DOC. No. 56849378
P.N. 33-13410 JWD PROPERTIES LLC DOC. No. 56449867
P.P.N. 33-02928 NORFOLK SOUTHERN CONSOLIDATED VALUATION MAP VOL. 8, PG. 88 VOL. 3381, PG. 469 VOL. 3407, PG. 120
PARCEL A-1 1,389,368 SQ. FT. 31.8955 ACRES
PROPOSED BUILDING
238,920 S.F.
F.F. 1022.00
PROP. STORM SEWER
PROP. STORMWATER MANAGEMENT BASIN
PROP. 10" FIRE SERVICE
PROP. SAN. FORCEMAIN
PROP. LIFT STATION
PROPOSED ELECTRIC SERVICE
PROP. 4" DOMESTIC SERVICE
PROP. GAS SERVICE
NORTHFIELD CENTER TWP.
MACEDONIA CITY
GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.

OHIO811.org Before You Dig

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STATE OF OHIO MATTHEW L. WEBER 61709 REGISTERED PROFESSIONAL ENGINEER

Reg. No.: 61709

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OWNER:

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MIKE HUS
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Issue Date
02-21-2025
03-17-2025
03-28-2025

PNFM SITE DEVELOPMENT
MACEDONIA, OHIO

OVERALL UTILITY PLAN

C103
Project No. 2024-317

SITE BENCH MARK	
BENCH MARK #1 N.E. CORNER HEADWALL	ELEVATION = 1036.19

SITE BENCH MARK	
BENCH MARK #3 TOP OF PIPE	ELEVATION = 996.64

SITE BENCH MARK	
BENCH MARK #2 54" PIPE INV.	ELEVATION = 1000.44

SITE BENCH MARK	
BENCH MARK #4 C.B. RIM	ELEVATION = 999.78

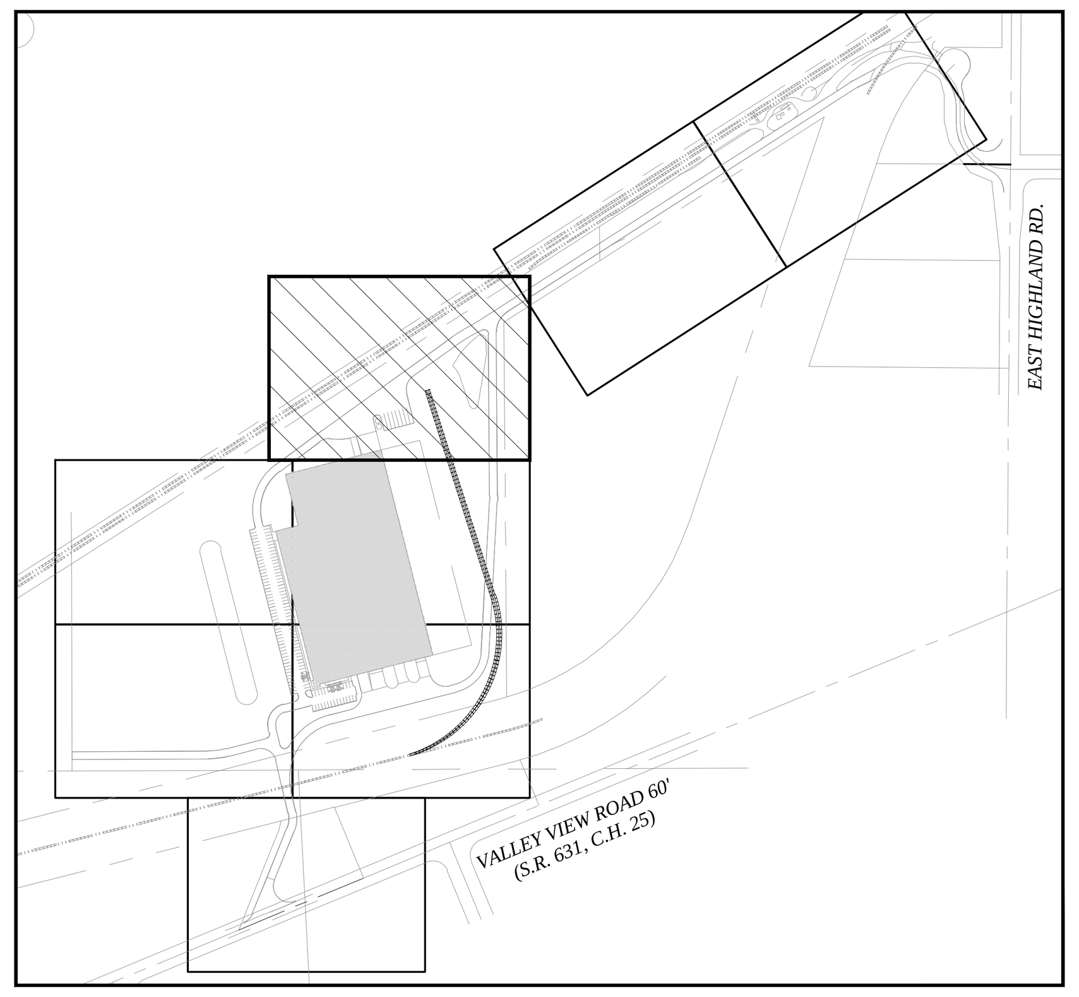
NOTE 1:

CONTRACTOR SHALL DEFLECT W.M. AS NECESSARY TO MAINTAIN 18" MIN. VERTICAL CLEARANCE BETWEEN W.M. □ SAN. SEW. AND/OR STM. SEW. AT ALL TIMES. (INSTALL BENDS WHERE NECESSARY)

LEGEND

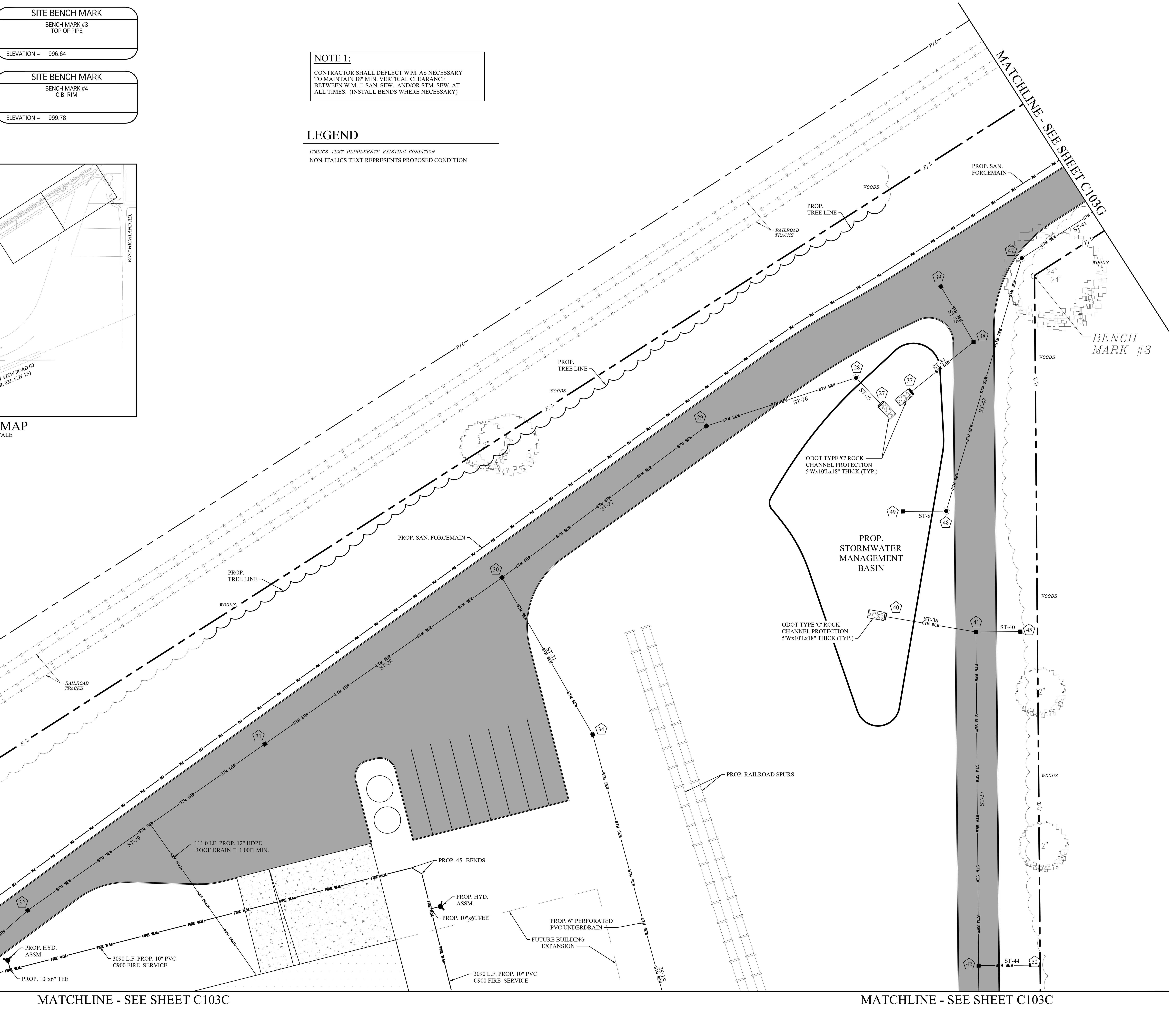
ITALICS TEXT REPRESENTS EXISTING CONDITION

NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION



KEYMAP

NO SCALE



STORM STRUCTURE TABLE	
STRUCTURE	DETAILS
27	ODOT HW 2.1 INV IN □994.50, 24" NW
28	STORM MH. RIM □1000.00 INV IN □995.00, 24" W INV OUT □995.00, 24" SE
29	ODOT CB 2-3 RIM □1006.50 INV IN □1001.50, 24" SW INV OUT □1001.50, 24" E
30	ODOT CB 2-3 RIM □1014.00 INV IN □1009.00, 24" SW INV IN □1009.50, 18" SE INV OUT □1009.00, 24" NE
31	ODOT CB 2-3 RIM □1015.75 INV IN □1010.75, 24" SW INV OUT □1010.75, 24" NE
32	ODOT CB 2-3 RIM □1017.50 INV IN □1013.25, 15" SW INV OUT □1012.50, 24" NE
34	ODOT CB 2-3 RIM □1016.60 INV IN □1013.50, 6" S INV OUT □1012.50, 18" NW
37	ODOT HW 2.1 INV IN □994.50, 12" NE
38	ODOT CB 2-2C RIM □997.50 INV IN □994.75, 12" NW INV OUT □994.75, 12" SW
39	ODOT CB 2-2C RIM □998.50 INV OUT □995.00, 12" SE
40	ODOT HW 2.1 INV IN □994.50, 12" E
41	ODOT CB 2-2C RIM □1004.10 INV IN □999.90, 12" S INV IN □999.90, 12" E INV OUT □999.90, 12" W
42	ODOT CB 2-2C RIM □1012.95 INV IN □1006.00, 12" S INV IN □1006.00, 12" E INV OUT □1006.00, 12" N
45	ODOT CB 2-2A RIM □1003.90 INV OUT □1000.40, 12" W
47	STORM MH. RIM □1000.00 INV IN □992.85, 36" S INV OUT □992.85, 36" NE
48	STORM MH. RIM □1001.00 INV IN □994.25, 36" W INV OUT □994.25, 36" N
49	OUTLET STRUCTURE RIM □998.40 INV OUT □994.50, 36" E
52	ODOT CB 2-2A RIM □1009.60 INV OUT □1006.50, 12" W

STORM PIPE TABLE				
NAME	SI□E	LENGTH	SLOPE	TYPE
ST-8	36"	26.00'	0.96□	HDPE
ST-25	24"	22.19'	2.25□	HDPE
ST-26	24"	94.60'	6.87□	HDPE
ST-27	24"	153.06'	4.90□	HDPE
ST-28	24"	174.29'	1.00□	HDPE
ST-29	24"	174.29'	1.00□	HDPE
ST-30	15"	197.88'	1.01□	HDPE
ST-31	18"	109.12'	2.75□	HDPE
ST-32	6"	300.00'	0.50□	PERF. PVC
ST-34	12"	48.53'	0.52□	HP STORM
ST-35	12"	38.66'	0.65□	HP STORM
ST-36	12"	55.75'	9.69□	HDPE
ST-37	12"	200.73'	3.04□	HDPE
ST-38	12"	207.46'	2.65□	HDPE
ST-40	12"	26.75'	1.87□	HDPE
ST-41	36"	97.97'	0.87□	HDPE
ST-42	36"	158.79'	0.88□	HDPE
ST-44	12"	31.46'	1.59□	HDPE

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

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Reg. No.: 61709

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Issue Date
02-21-2025
03-17-2025
03-28-2025

PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

PARTIAL UTILITY PLAN

C103A

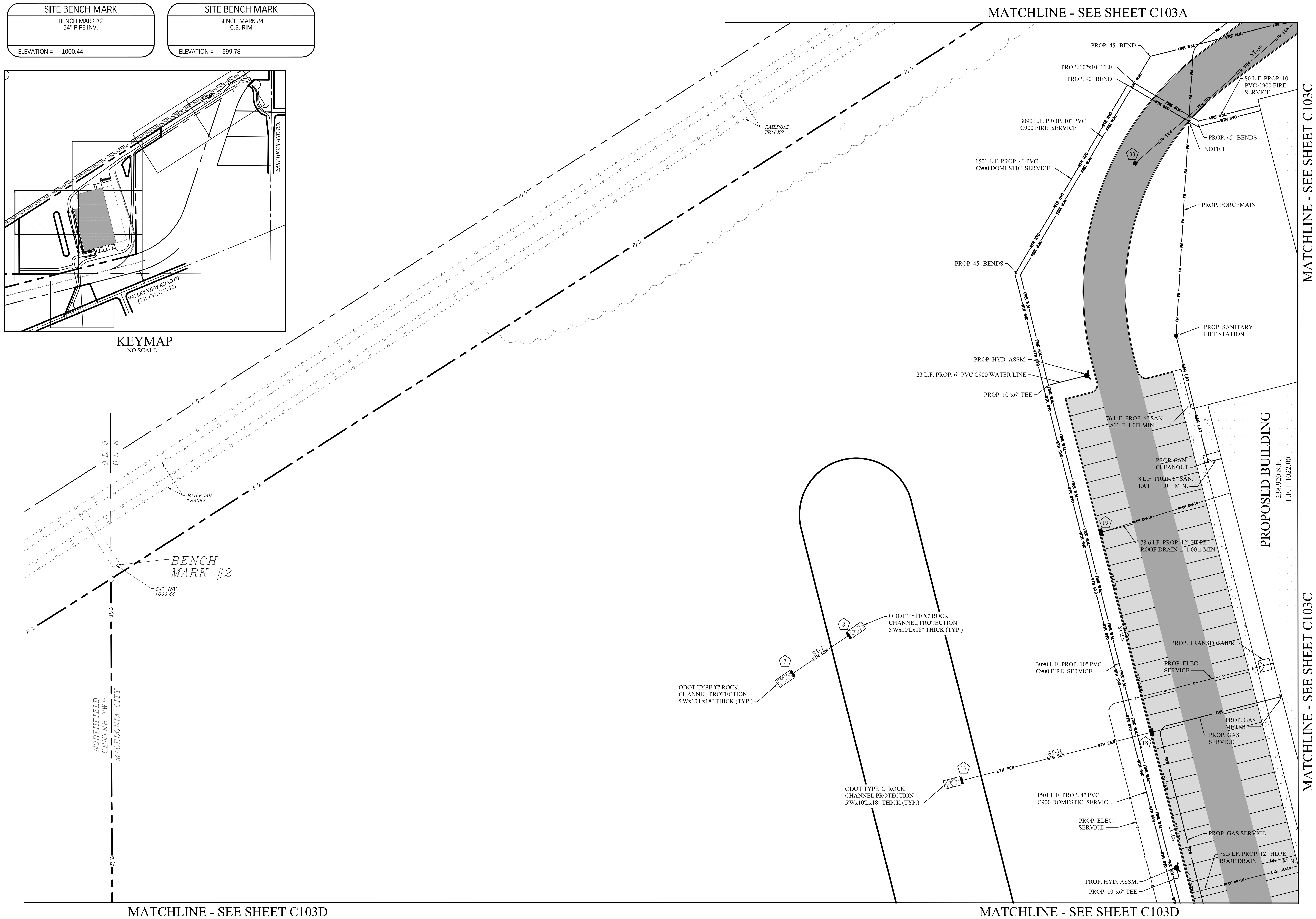
Project No. 2024-317

SITE BENCH MARK
BENCH MARK #1 N.E. CORNER HEADWALL
ELEVATION = 1036.19

SITE BENCH MARK
BENCH MARK #3 TOP OF PIPE
ELEVATION = 996.64

SITE BENCH MARK
BENCH MARK #2 54" PIPE INV.
ELEVATION = 1000.44

SITE BENCH MARK
BENCH MARK #4 C.B. RIM
ELEVATION = 999.78



STORM STRUCTURE TABLE	
STRUCTURE	DETAILS
7	ODOT HW 2.1 INV IN □1007.00, 36" NE
8	ODOT HW 2.1 INV OUT □1008.00, 36" SW
16	ODOT HW 2.1 INV IN □1008.00, 18" E
18	ODOT CB No. 3A RIM □1020.00 INV IN □1014.30, 18" S INV IN □1014.30, 18" N INV OUT □1014.30, 18" W
19	ODOT CB No. 3A RIM □1020.00 INV OUT □1015.50, 18" S
33	ODOT CB 2-2C RIM □1019.50 INV OUT □1015.25, 15" NE

STORM PIPE TABLE				
NAME	SI□E	LENGTH	SLOPE	TYPE
ST-7	36"	40.47'	2.47□	HDPE
ST-16	18"	114.50'	5.50□	HDPE
ST-17	18"	120.00'	1.00□	HDPE
ST-18	18"	120.00'	1.00□	HDPE
ST-30	15"	197.88'	1.01□	HDPE

NOTE 1:
CONTRACTOR SHALL DEFLECT W.M. AS NECESSARY TO MAINTAIN 18" MIN. VERTICAL CLEARANCE BETWEEN W.M. □ SAN. SEW. AND/OR STM. SEW. AT ALL TIMES. (INSTALL BENDS WHERE NECESSARY)

LEGEND
ITALICS TEXT REPRESENTS EXISTING CONDITION
NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

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JEN DIASIO
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OWNER:
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VALLEY VIEW, OHIO
MIKE HUS
PHONE: (989) 750-3878

Issue Date
02-21-2025
03-17-2025
03-28-2025

PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

PARTIAL UTILITY PLAN

C103B
Project No. 2024-317

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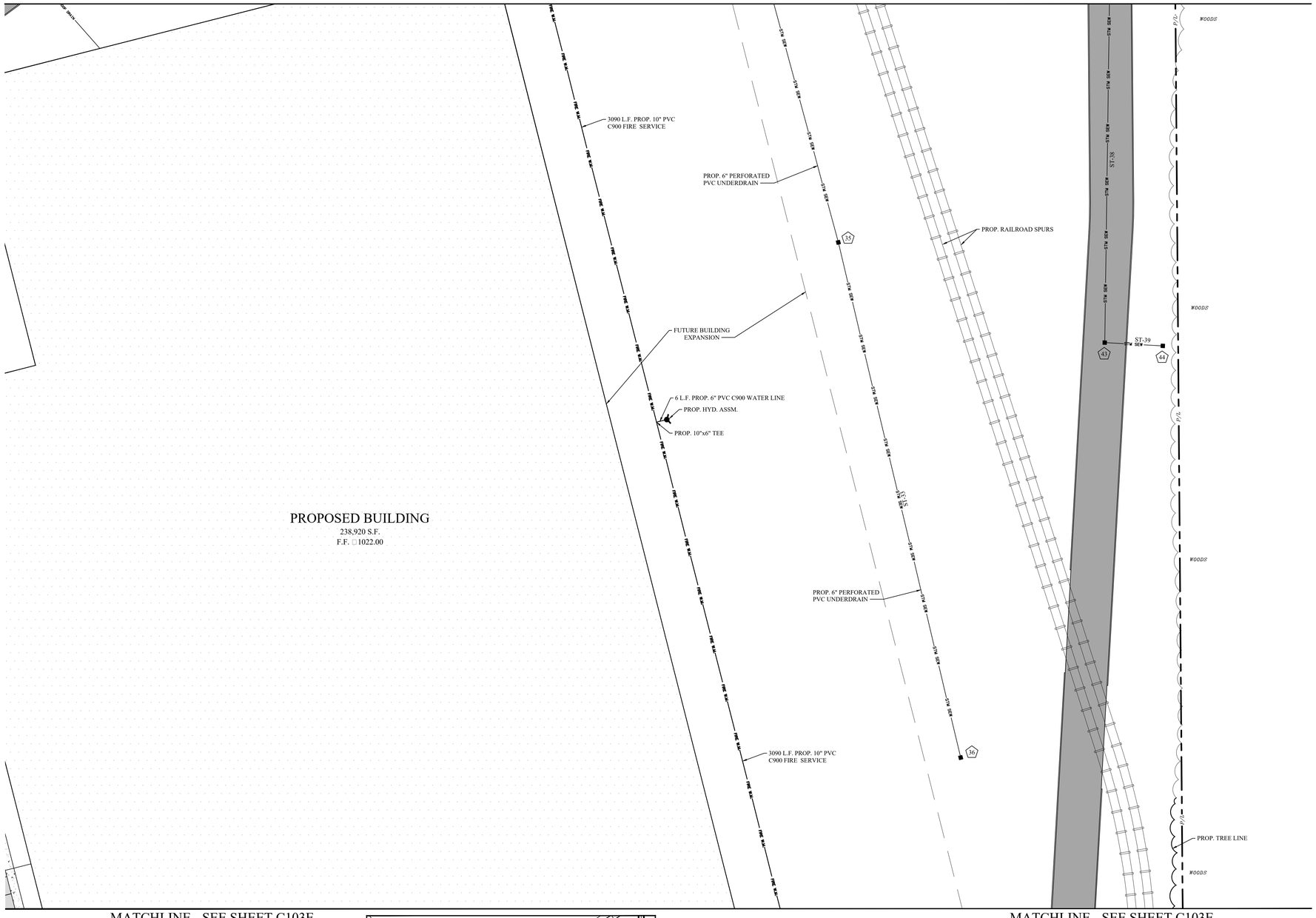
MATCHLINE - SEE SHEET C103A

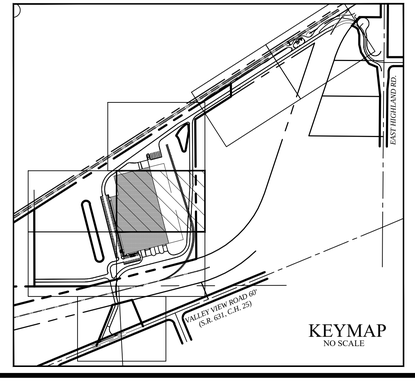
MATCHLINE - SEE SHEET C103A



PROPOSED BUILDING
238,920 S.F.
F.F. □1022.00

MATCHLINE - SEE SHEET C103E

MATCHLINE - SEE SHEET C103E



KEYMAP
NO SCALE

OHIO811.org Before You Dig

SITE BENCH MARK
BENCH MARK #1 N.E. CORNER HEADWALL
ELEVATION = 1036.19

SITE BENCH MARK
BENCH MARK #2 54" PIPE INV.
ELEVATION = 1000.44

SITE BENCH MARK
BENCH MARK #3 TOP OF PIPE
ELEVATION = 996.64

SITE BENCH MARK
BENCH MARK #4 C.B. RIM
ELEVATION = 999.78

STORM STRUCTURE TABLE	
STRUCTURE	DETAILS
35	ODOT CB 2-2B RIM □1019.00 INV IN □1015.00, 6" S INV OUT □1015.00, 6" N
36	ODOT CB 2-2B RIM □1019.00 INV OUT □1016.50, 6" N
43	ODOT CB 2-2C RIM □1022.00 INV IN □1011.50, 12" E INV OUT □1011.50, 12" N
44	ODOT CB 2-2A RIM □1015.50 INV OUT □1012.00, 12" W

STORM PIPE TABLE				
NAME	SI□E	LENGTH	SLOPE	TYPE
ST-32	6"	300.00'	0.50□	PERF. PVC
ST-33	6"	299.90'	0.50□	PERF. PVC
ST-38	12"	207.46'	2.65□	HDPE
ST-39	12"	32.91'	1.52□	HDPE

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LEGEND

ITALICS TEXT REPRESENTS EXISTING CONDITION

NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

N

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

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PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

Issue Date
02-21-2025
03-17-2025
03-28-2025

PARTIAL UTILITY PLAN

C103C

Project No. 2024-317

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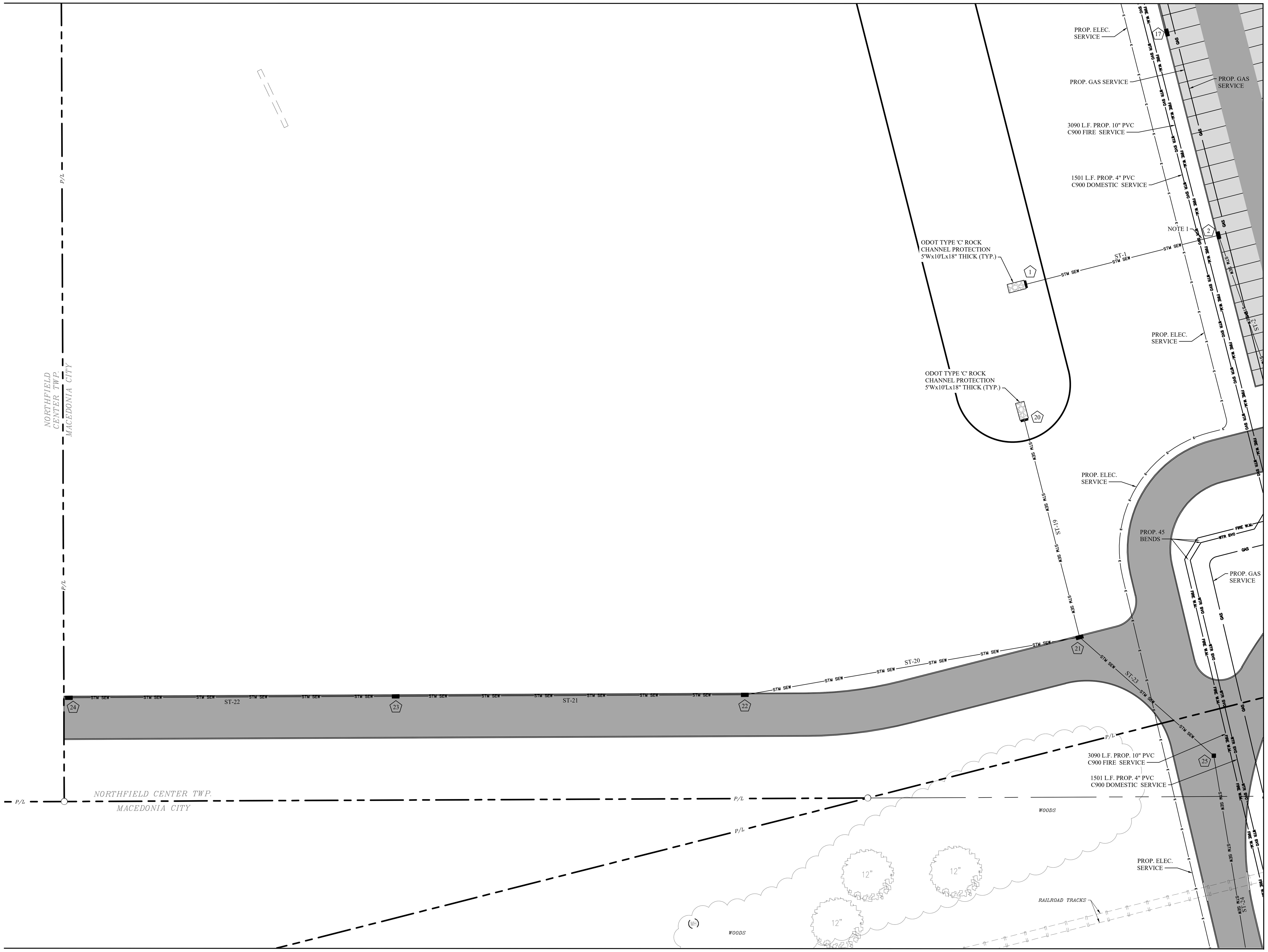


SITE BENCH MARK
BENCH MARK #1 N.E. CORNER HEADWALL
ELEVATION = 1036.19

SITE BENCH MARK
BENCH MARK #2 54" PIPE INV.
ELEVATION = 1000.44

SITE BENCH MARK
BENCH MARK #3 TOP OF PIPE
ELEVATION = 996.64

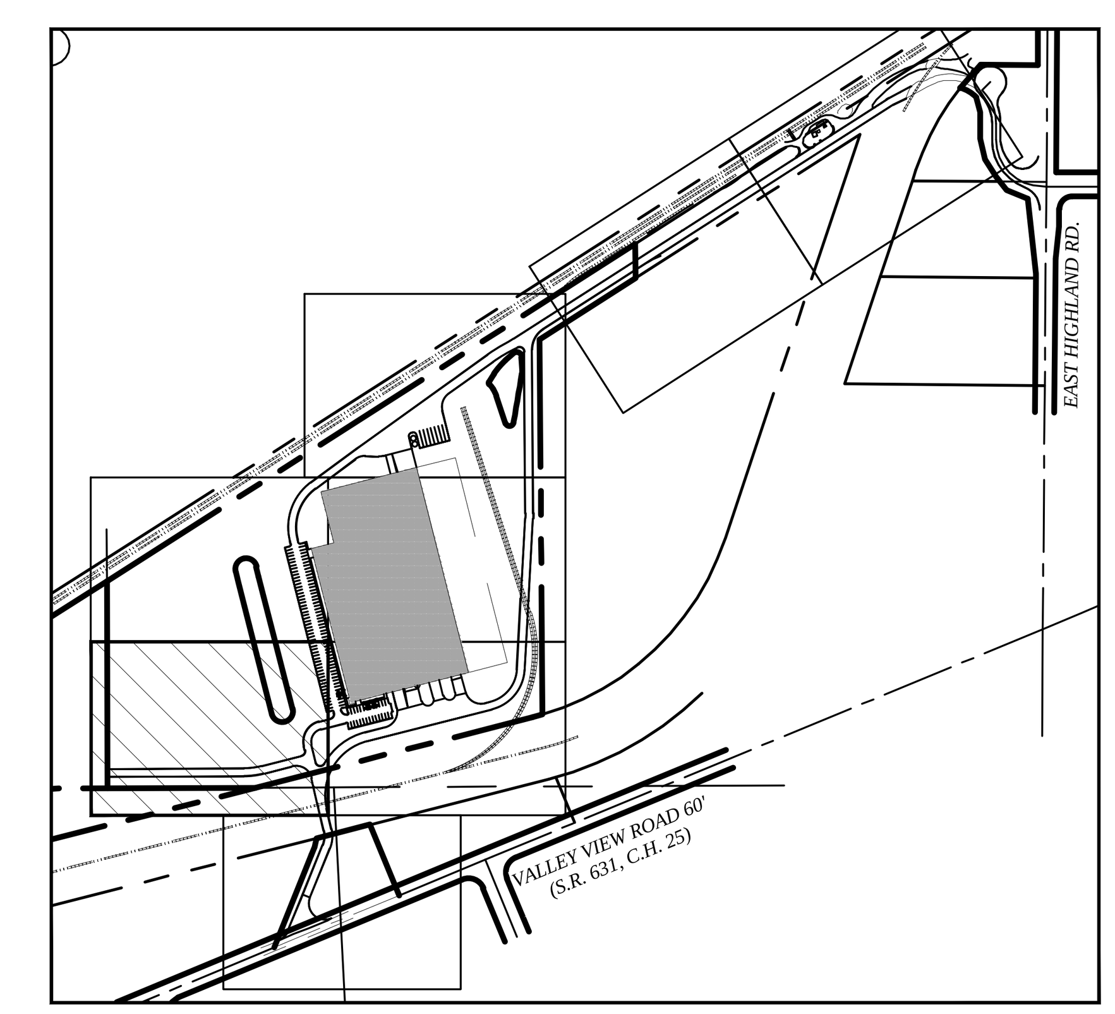
SITE BENCH MARK
BENCH MARK #4 C.B. RIM
ELEVATION = 999.78

STORM STRUCTURE TABLE

STRUCTURE	DETAILS
1	ODOT HW 2.1 RIM □1016.6 INV IN □1008.00, 36" E
2	ODOT CB No. 3A RIM □1020.00 INV IN □1009.10, 30" S INV OUT □1008.60, 36" W
17	ODOT CB No. 3A RIM □1020.00 INV OUT □1015.50, 18" N
20	ODOT HW 2.1 RIM □1014.94 INV IN □1013.00, 15" S
21	ODOT CB No. 3A RIM □1029.00 INV IN □1021.50, 15" W INV IN □1021.75, 12" SE INV OUT □1021.50, 15" N
22	ODOT CB No. 3A RIM □1030.00 INV IN □102[illegible] INV OUT □[illegible]
25	ODOT CB 2-2C RIM □1032.25 INV IN □1028.25, 12" S INV OUT □1028.25, 12" NW

STORM PIPE TABLE

NAME	SI□E	LENGTH	SLOPE	TYPE
ST-1	36"	114.50'	0.52□	HDPE
ST-2	30"	125.84'	0.52□	HDPE
ST-19	15"	128.99'	6.59□	HDPE
ST-20	15"	194.88'	0.59□	HDPE
ST-21	12"	200.32'	0.55□	HDPE
ST-23	12"	102.72'	6.33□	HDPE
ST-24	12"	173.99'	1.01□	HDPE



KEYMAP
NO SCALE

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LEGEND
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30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

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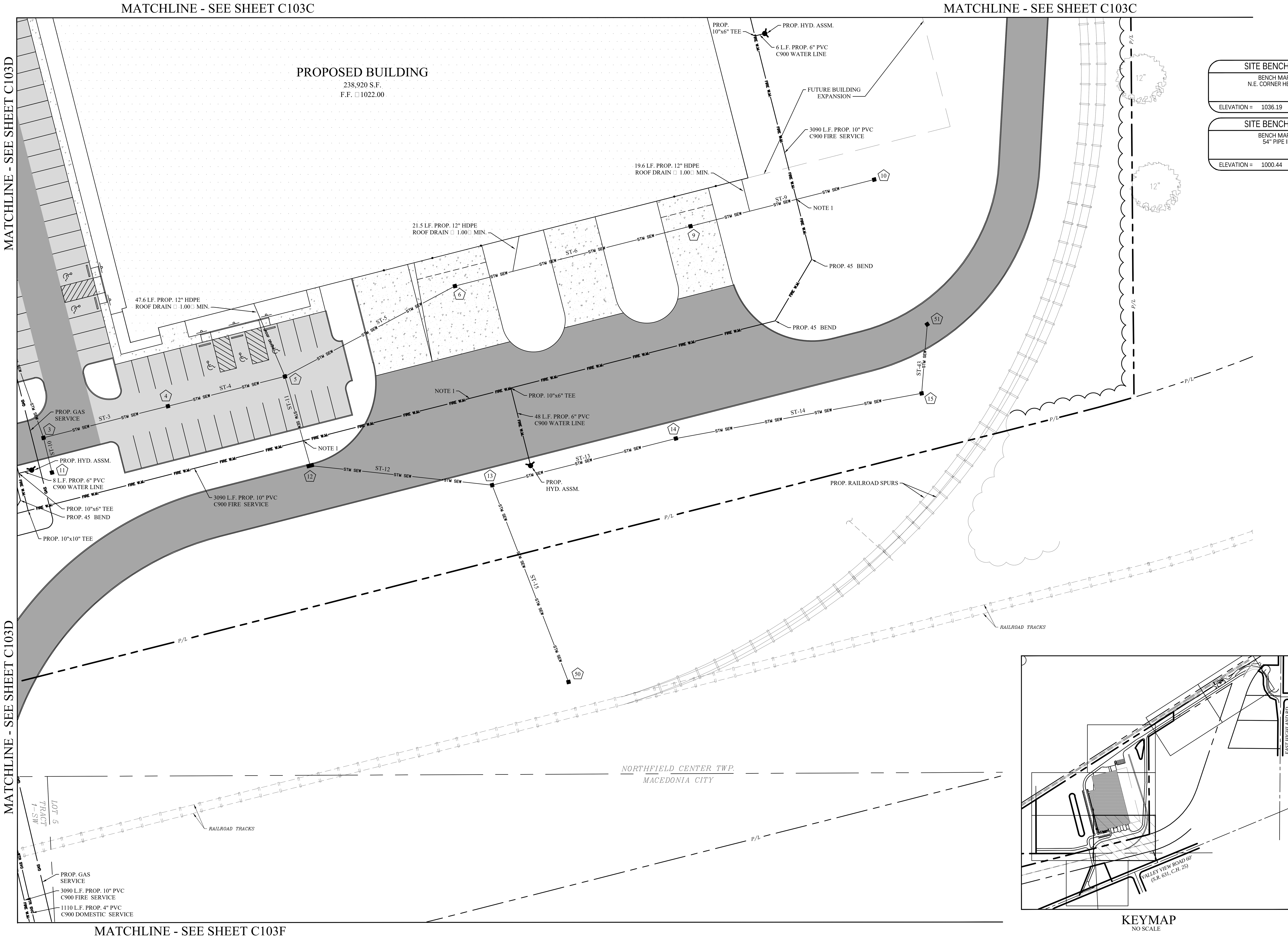
PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

Issue Date
02-21-2025
03-17-2025
03-28-2025

PARTIAL UTILITY PLAN

C103D
Project No. 2024-317



SITE BENCH MARK
BENCH MARK #1 N.E. CORNER HEADWALL
ELEVATION = 1036.19

SITE BENCH MARK
BENCH MARK #3 TOP OF PIPE
ELEVATION = 996.64

SITE BENCH MARK
BENCH MARK #2 54" PIPE INV.
ELEVATION = 1000.44

SITE BENCH MARK
BENCH MARK #4 C.B. RIM
ELEVATION = 999.78

STORM STRUCTURE TABLE

STRUCTURE	DETAILS
3	ODOT CB 2-4 RIM □1020.00 INV IN □1009.75, 30" E INV IN □1015.75, 12" S INV OUT □1009.75, 30" N
4	ODOT CB 2-4 RIM □1020.60 INV IN □1010.15, 30" E INV OUT □1010.15, 30" W
5	ODOT CB 2-4 RIM □1020.60 INV IN □1011.00, 24" NE INV IN □1014.45, 18" S INV OUT □1010.50, 30" W
6	ODOT CB 2-3 RIM □1017.55 INV IN □1011.60, 24" E INV OUT □1011.60, 24" SW
9	ODOT CB 2-3 RIM □1017.55 INV IN □1012.40, 24" E INV OUT □1012.40, 24" W
10	ODOT CB 2-3 RIM □1017.30 INV OUT □1013.00, 24" W
11	ODOT CB 2-2B RIM □1020.00 INV OUT □1016.00, 12" N
12	ODOT CB No. 3A RIM □1021.75 INV IN □1015.10, 18" E INV OUT □1015.10, 18" N
13	ODOT CB 2-2B RIM □1021.00 INV IN □1016.75, 12" E INV IN □1016.75, 12" S INV OUT □1016.25, 18" W
14	ODOT CB 2-2B RIM □1021.00 INV IN □1017.60, 12" E INV OUT □1017.60, 12" W
15	ODOT CB 2-2B RIM □1024.00 INV IN □1018.70, 12" N INV OUT □1018.70, 12" W
50	ODOT CB 2-2B RIM □1027.00 INV OUT □1023.00, 12" N
51	ODOT CB 2-2C RIM □1023.00

STORM PIPE TABLE

NAME	SI□E	LENGTH	SLOPE	TYPE
ST-2	30"	125.84'	0.52□	HDPE
ST-3	30"	76.91'	0.52□	HDPE
ST-4	30"	72.31'	0.48□	HDPE
ST-5	24"	115.36'	0.52□	HDPE
ST-6	24"	145.62'	0.55□	HDPE
ST-9	24"	113.54'	0.53□	HDPE
ST-10	12"	21.45'	1.17□	HDPE
ST-11	18"	55.52'	1.17□	HDPE
ST-12	18"	109.61'	1.05□	HDPE
ST-13	12"	113.57'	0.75□	HDPE
ST-14	12"	149.69'	0.73□	HDPE
ST-15	12"	126.49'	4.94□	HDPE
ST-43	12"	41.50'	0.72□	HDPE

KEYMAP
NO SCALE

NOTE 1:

CONTRACTOR SHALL DEFLECT W.M. AS NECESSARY TO MAINTAIN 18" MIN. VERTICAL CLEARANCE BETWEEN W.M. □ SAN. SEW. AND/OR STM. SEW. AT ALL TIMES. (INSTALL BENDS WHERE NECESSARY)

LEGEND

ITALICS TEXT REPRESENTS EXISTING CONDITION
NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

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MATTHEW L. WEBER
61709
REGISTERED
PROFESSIONAL ENGINEER

Reg. No.: 61709

CLIENT:

GEIS CONSTRUCTION

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STREETSBORO, OHIO
JEN DIASIO
PHONE: (216) 218-3507

OWNER:

PEAK NANO FILM MANUFACTURING

7700 HUB PARKWAY, SUITE
VALLEY VIEW, OHIO
MIKE HUS
PHONE: (989) 750-3878

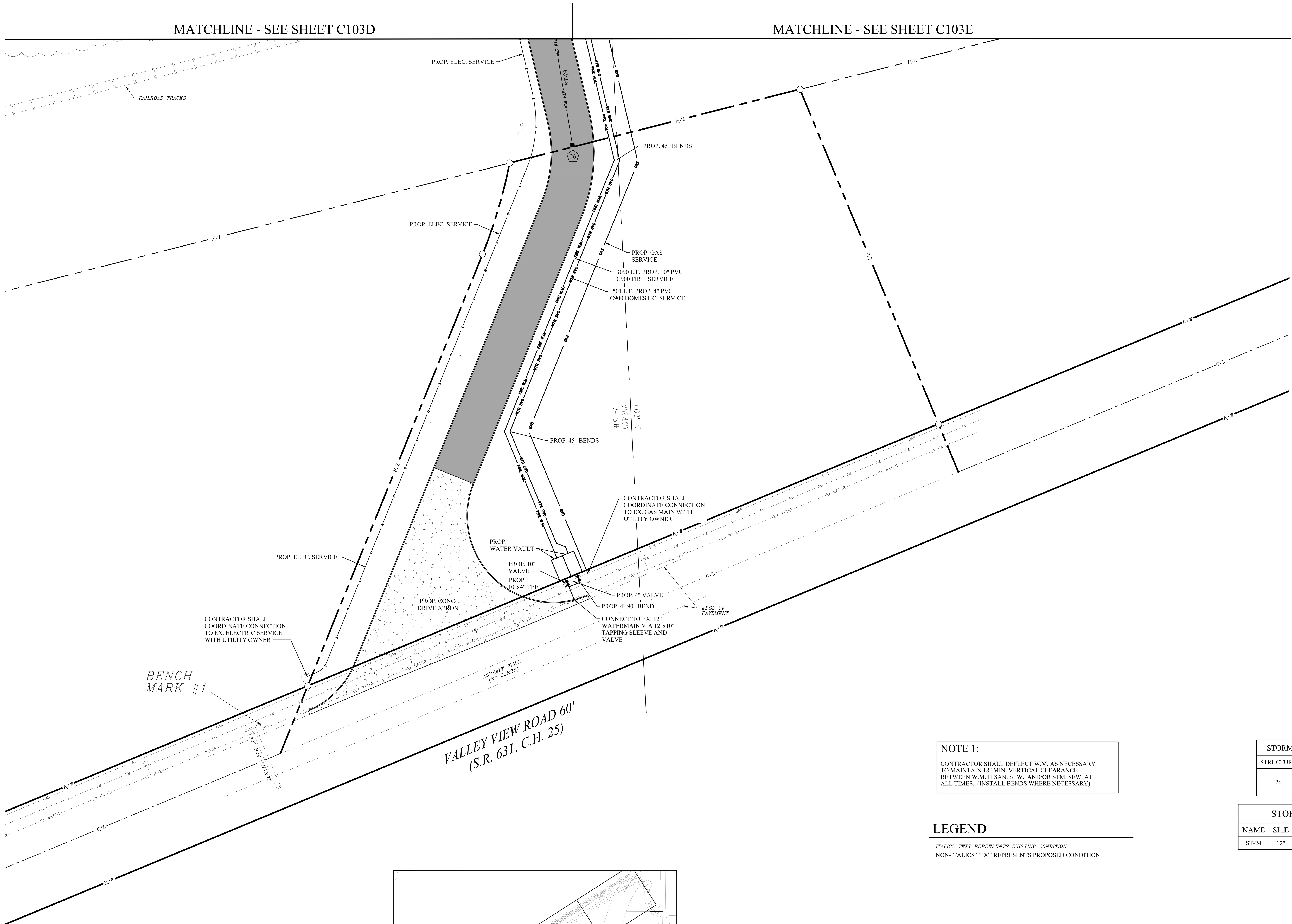
Issue Date
02-21-2025
03-17-2025
03-28-2025

PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

PARTIAL UTILITY PLAN

C103E
Project No. 2024-317

D:\Related - WORK\Civil 3D Projects 2024\2024-317 PNFM\Dwg\2024-317 Site01D.dwg 3/28/2025 5:32:27 PM



SITE BENCH MARK
BENCH MARK #1 N.E. CORNER HEADWALL
ELEVATION = 1036.19

SITE BENCH MARK
BENCH MARK #2 54" PIPE INV.
ELEVATION = 1000.44

SITE BENCH MARK
BENCH MARK #3 TOP OF PIPE
ELEVATION = 996.64

SITE BENCH MARK
BENCH MARK #4 C.B. RIM
ELEVATION = 999.78

NOTE 1:

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STORM STRUCTURE TABLE

STRUCTURE	DETAILS
26	ODOT CB 2-2C RIM □1034.00 INV OUT □1030.00, 12" N

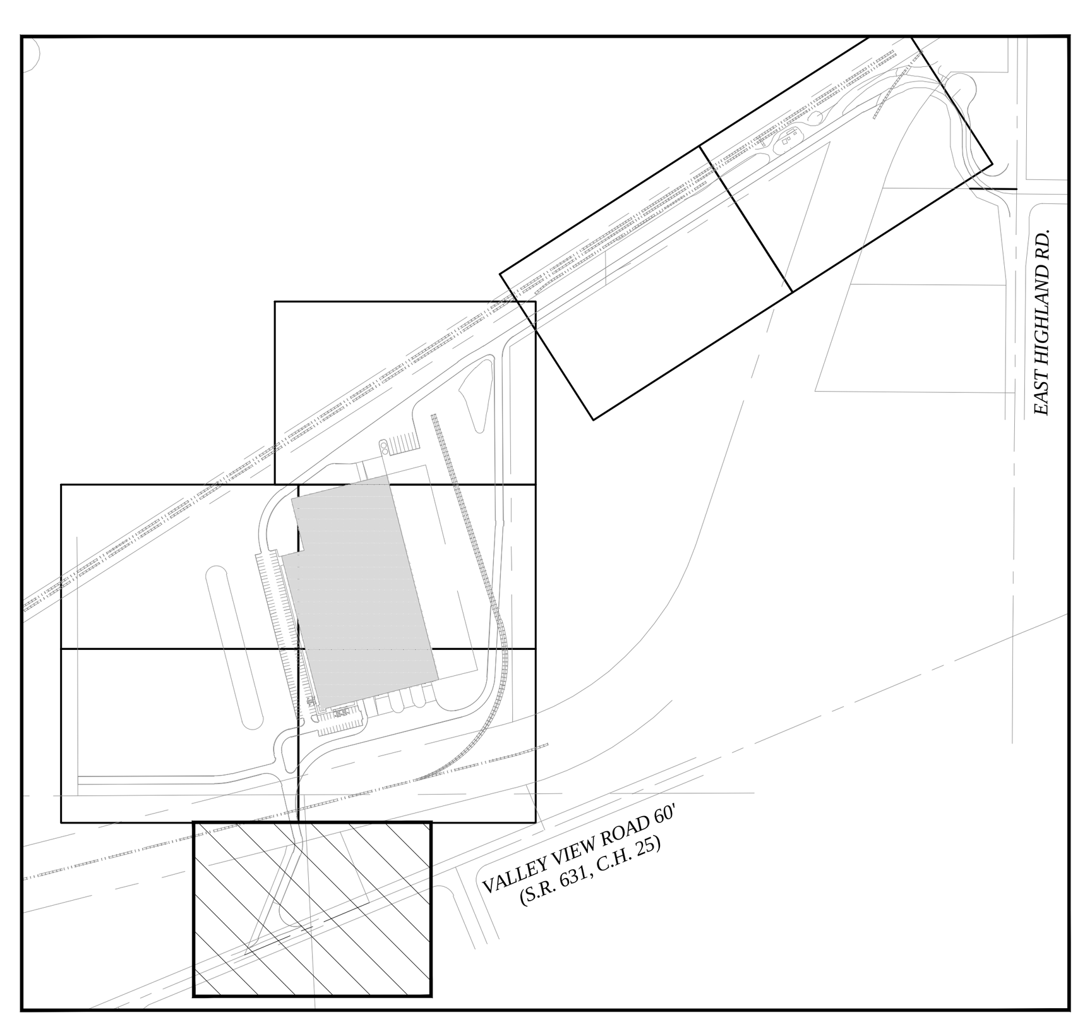
STORM PIPE TABLE

NAME	SI□E	LENGTH	SLOPE	TYPE
ST-24	12"	173.99'	1.01□	HDPE

LEGEND

ITALICS TEXT REPRESENTS EXISTING CONDITION

NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION



KEYMAP

NO SCALE

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GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

1 inch = 30 ft.

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OWNER:

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VALLEY VIEW, OHIO
MIKE HUS
PHONE: (989) 750-3878

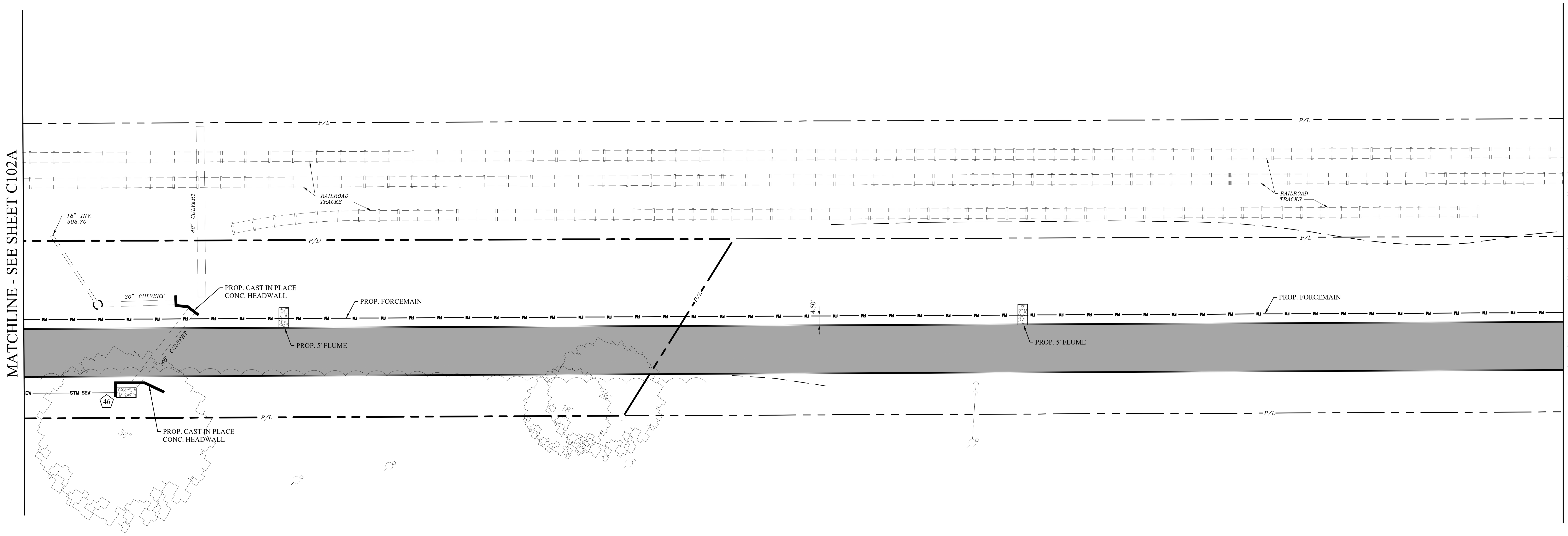
PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

Issue Date
02-21-2025
03-17-2025
03-28-2025

PARTIAL UTILITY PLAN

C103F

Project No. 2024-317



SITE BENCH MARK
BENCH MARK #1
N.E. CORNER HEADWALL
ELEVATION = 1036.19

SITE BENCH MARK
BENCH MARK #2
54" PIPE INV.
ELEVATION = 1000.44

SITE BENCH MARK
BENCH MARK #3
TOP OF PIPE
ELEVATION = 996.64

SITE BENCH MARK
BENCH MARK #4
C.B. RIM
ELEVATION = 999.78

STORM STRUCTURE TABLE	
STRUCTURE	DETAILS
46	ODOT HW 1.1 INV IN □992.00, 36" SW

STORM PIPE TABLE				
NAME	SI□E	LENGTH	SLOPE	TYPE
ST-41	36"	97.97'	0.87□	HDPE

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LEGEND

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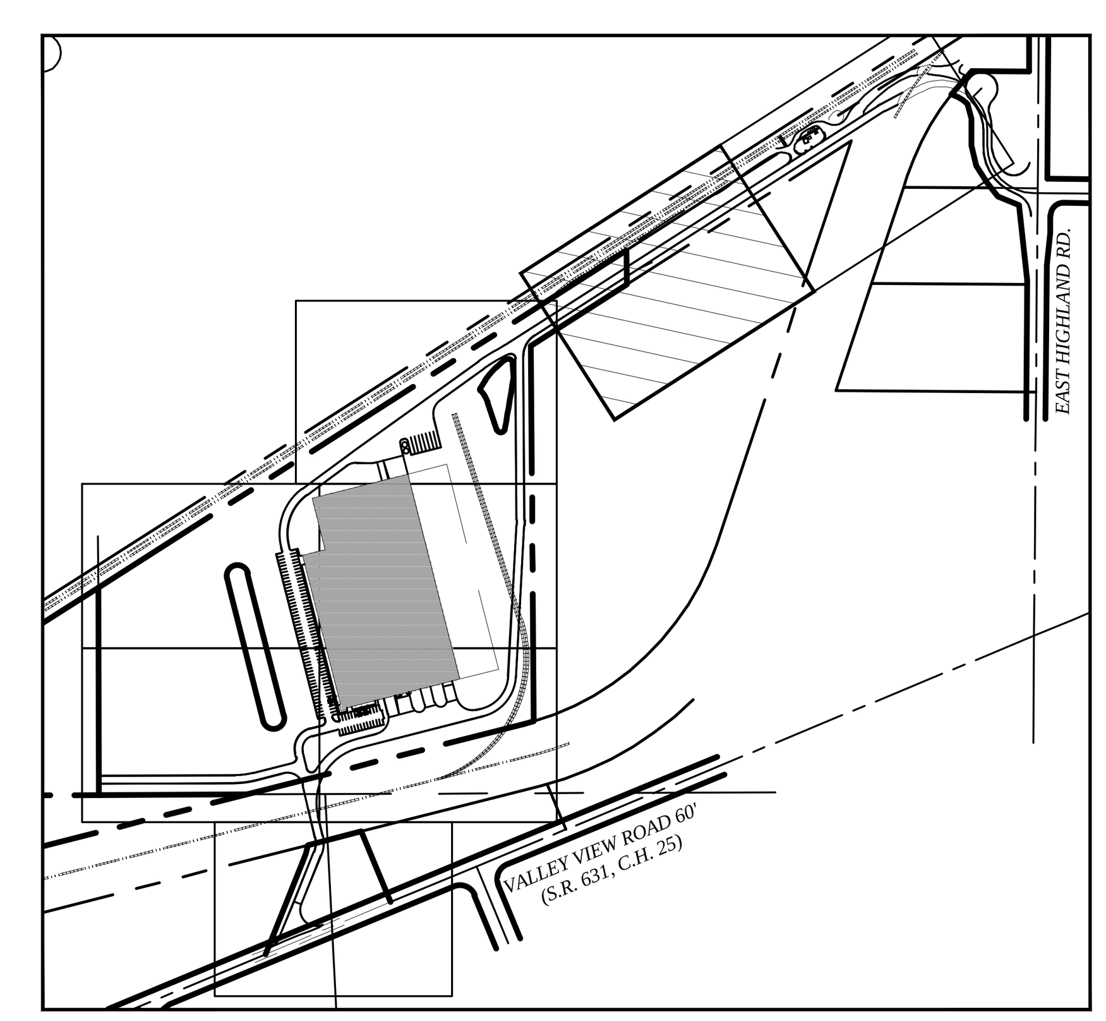
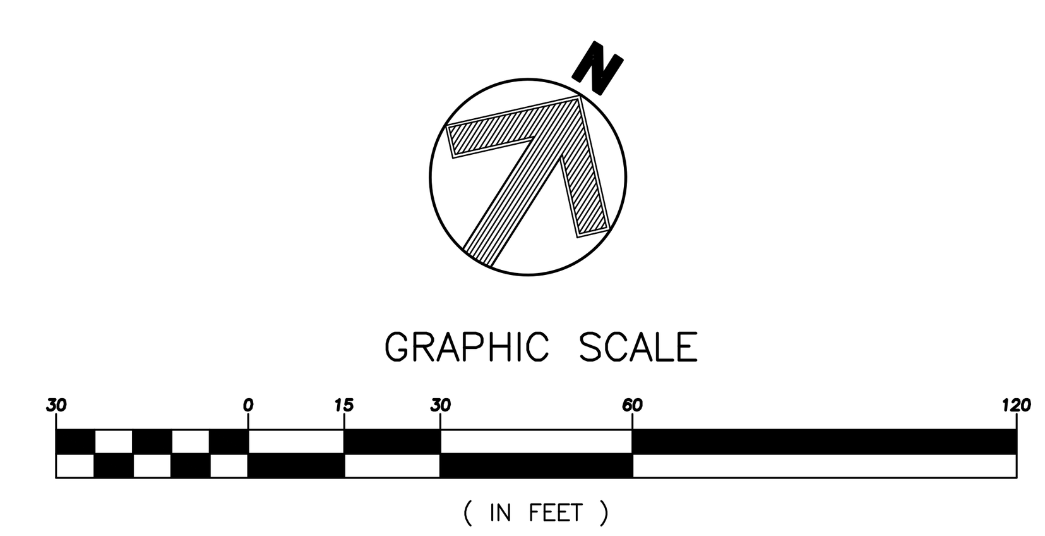


KEYMAP
NO SCALE



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MIKE HUS
PHONE: (989) 750-3878

Issue Date
02-21-2025
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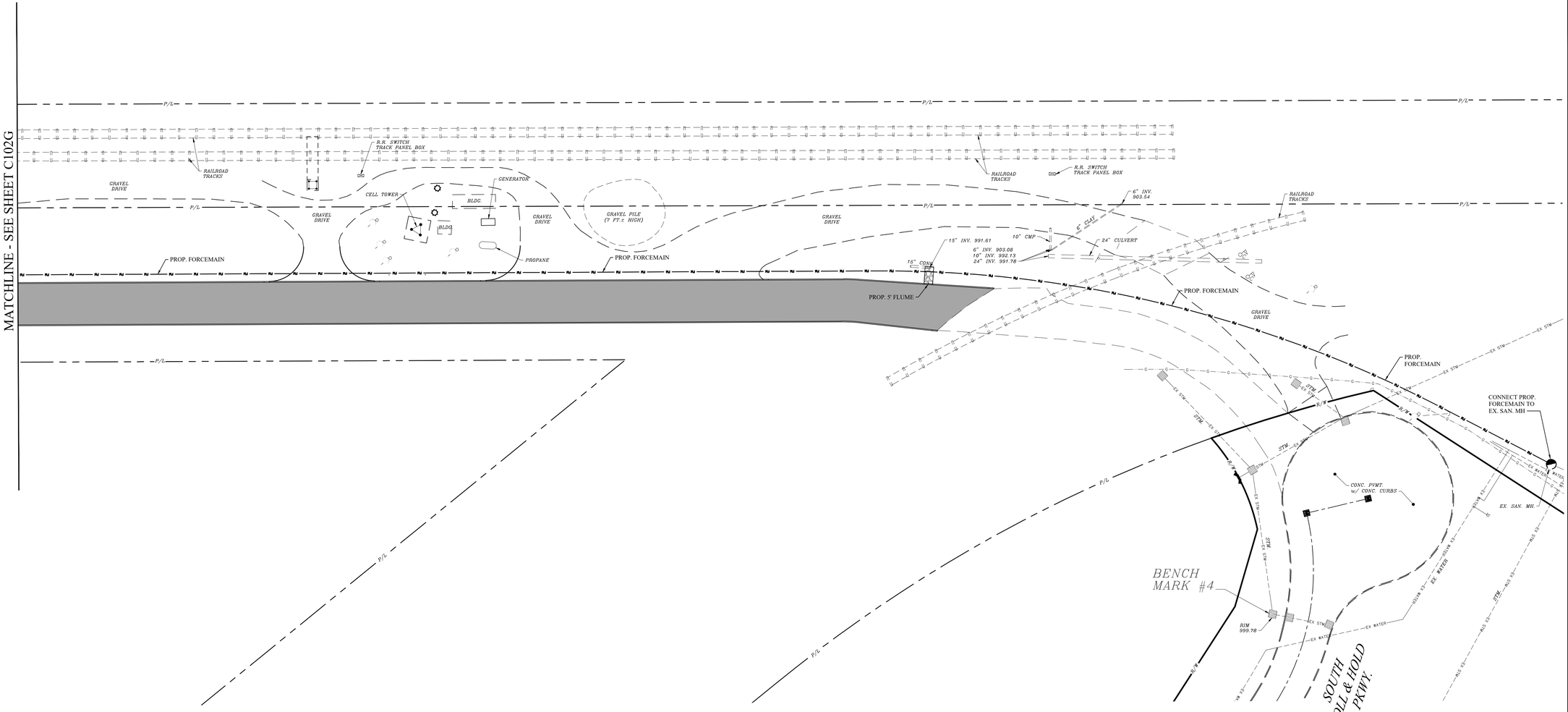
PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

PARTIAL UTILITY PLAN

C103G

Project No. 2024-317

MATCHLINE - SEE SHEET C102G



SITE BENCH MARK
BENCH MARK #1 N.E. CORNER HEADWALL
ELEVATION = 1036.19

SITE BENCH MARK
BENCH MARK #2 54" PIPE INV.
ELEVATION = 1000.44

SITE BENCH MARK
BENCH MARK #3 TOP OF PIPE
ELEVATION = 996.64

SITE BENCH MARK
BENCH MARK #4 C.B. RIM
ELEVATION = 999.78

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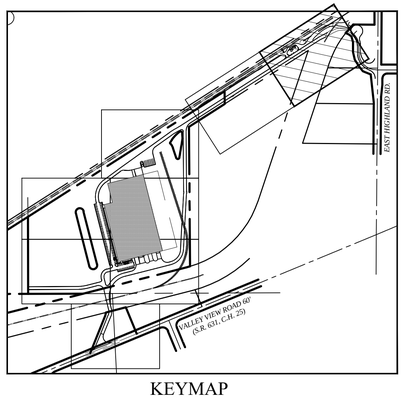

KEYMAP
NO SCALE

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LEGEND

ITALICS TEXT REPRESENTS EXISTING CONDITION

NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

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PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

Issue Date
02-21-2025
03-17-2025
03-28-2025

PARTIAL UTILITY PLAN

C103H
Project No. 2024-317

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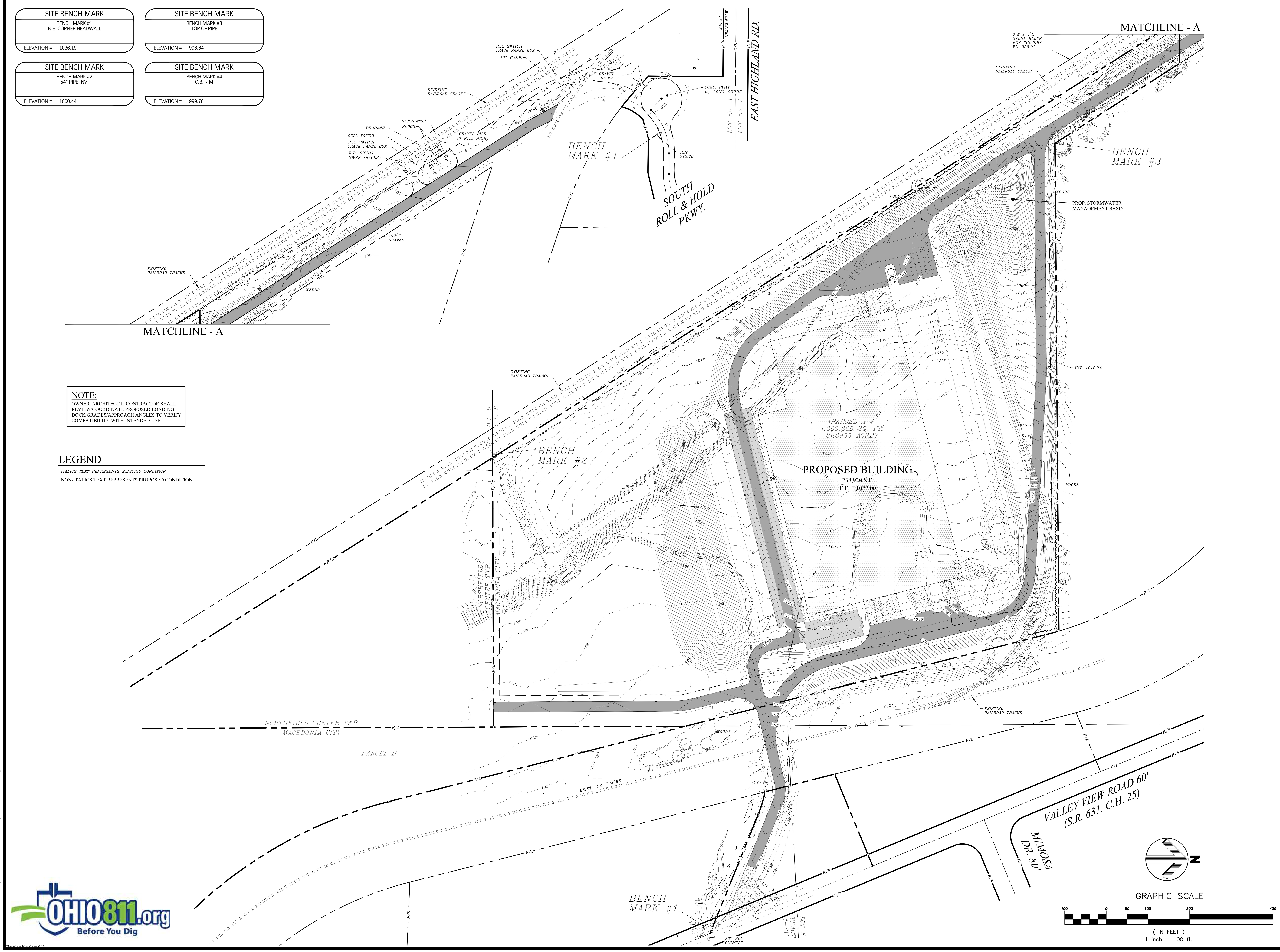
Standard block ref ""


SITE BENCH MARK
BENCH MARK #1
N.E. CORNER HEADWALL
ELEVATION = 1036.19
SITE BENCH MARK
BENCH MARK #3
TOP OF PIPE
ELEVATION = 996.64
SITE BENCH MARK
BENCH MARK #2
54" PIPE INV.
ELEVATION = 1000.44
SITE BENCH MARK
BENCH MARK #4
C.B. RIM
ELEVATION = 999.78
MATCHLINE - A
MATCHLINE - A
EAST HIGHLAND RD.
SOUTH ROLL & HOLD PKWY.
BENCH MARK #4
BENCH MARK #3
BENCH MARK #2
BENCH MARK #1
EXISTING RAILROAD TRACKS
PROP. STORMWATER MANAGEMENT BASIN
PARCEL A-1
PROPOSED BUILDING
238,920 S.F.
NOTE:
OWNER, ARCHITECT CONTRACTOR SHALL REVIEW/COORDINATE PROPOSED LOADING DOCK GRADES/APPROACH ANGLES TO VERIFY COMPATIBILITY WITH INTENDED USE.
LEGEND
ITALICS TEXT REPRESENTS EXISTING CONDITION
NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION
NORTHFIELD CENTER TWP.
MACEDONIA CITY
PARCEL B
EXIST. R.R. TRACKS
VALLEY VIEW ROAD 60'
(S.R. 631, C.H. 25)
MIMOSA DR. 80'
GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.
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OWNER:

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MIKE HUS
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Issue Date
02-21-2025
03-17-2025
03-28-2025

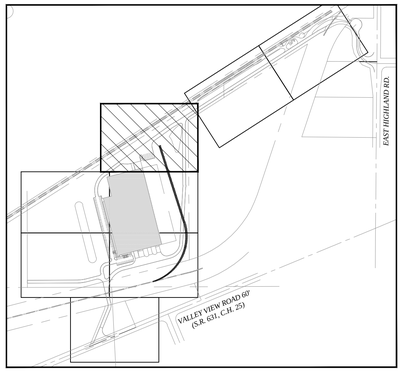
PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

OVERALL GRADING PLAN

C104

Project No. 2024-317

SITE BENCH MARK		SITE BENCH MARK	
BENCH MARK #1 N.E. CORNER HEADWALL		BENCH MARK #3 TOP OF PIPE	
ELEVATION =	1036.19	ELEVATION =	996.64
SITE BENCH MARK		**SITE BENCH MARK**	
BENCH MARK #2 54" PIPE INV.		BENCH MARK #4 C.B. RIM	
ELEVATION =	1000.44	ELEVATION =	999.78



KEYMAP
NO SCALE

MATCHLINE - SEE SHEET C104G

BENCH MARK #3

PROPOSED BUILDING
238,920 S.F.
F.F. □1022.00

FUTURE BUILDING EXPANSION

PROPOSE STORM WATER MANAGEMENT BASIN

PROP. RAILROAD SPURS

PROP. TREE LINE

RAILROAD TRACKS

WOODS

MATCHLINE SEE SHEET C104B

MATCHLINE - SEE SHEET C104C

MATCHLINE - SEE SHEET C104C

NOTE:
OWNER, ARCHITECT □ CONTRACTOR SHALL REVIEW/COORDINATE PROPOSED LOADING DOCK GRADES/APPROACH ANGLES TO VERIFY COMPATIBILITY WITH INTENDED USE.

LEGEND

ITALICS TEXT REPRESENTS EXISTING CONDITION

NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

- 00.00 — PROPOSED SPOT GRADE
- 00.00 / (00.00) — PROPOSED GRADE AT CURB
- MEET / EXIST — MEET EXISTING GRADE LABEL
- 0000.00 / 0000.00 / +1000.00 — EXISTING SPOT GRADE

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

OHIO811.org Before You Dig

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OWNER:

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PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

Issue Date
02-21-2025
03-17-2025
03-28-2025

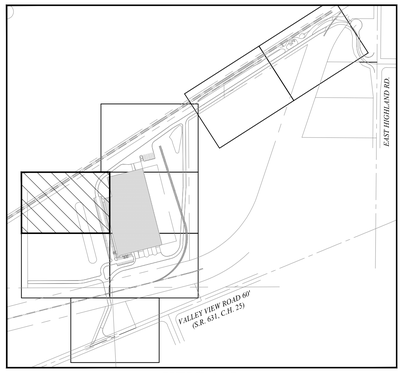
PARTIAL GRADING PLAN

C104A

Project No. 2024-317

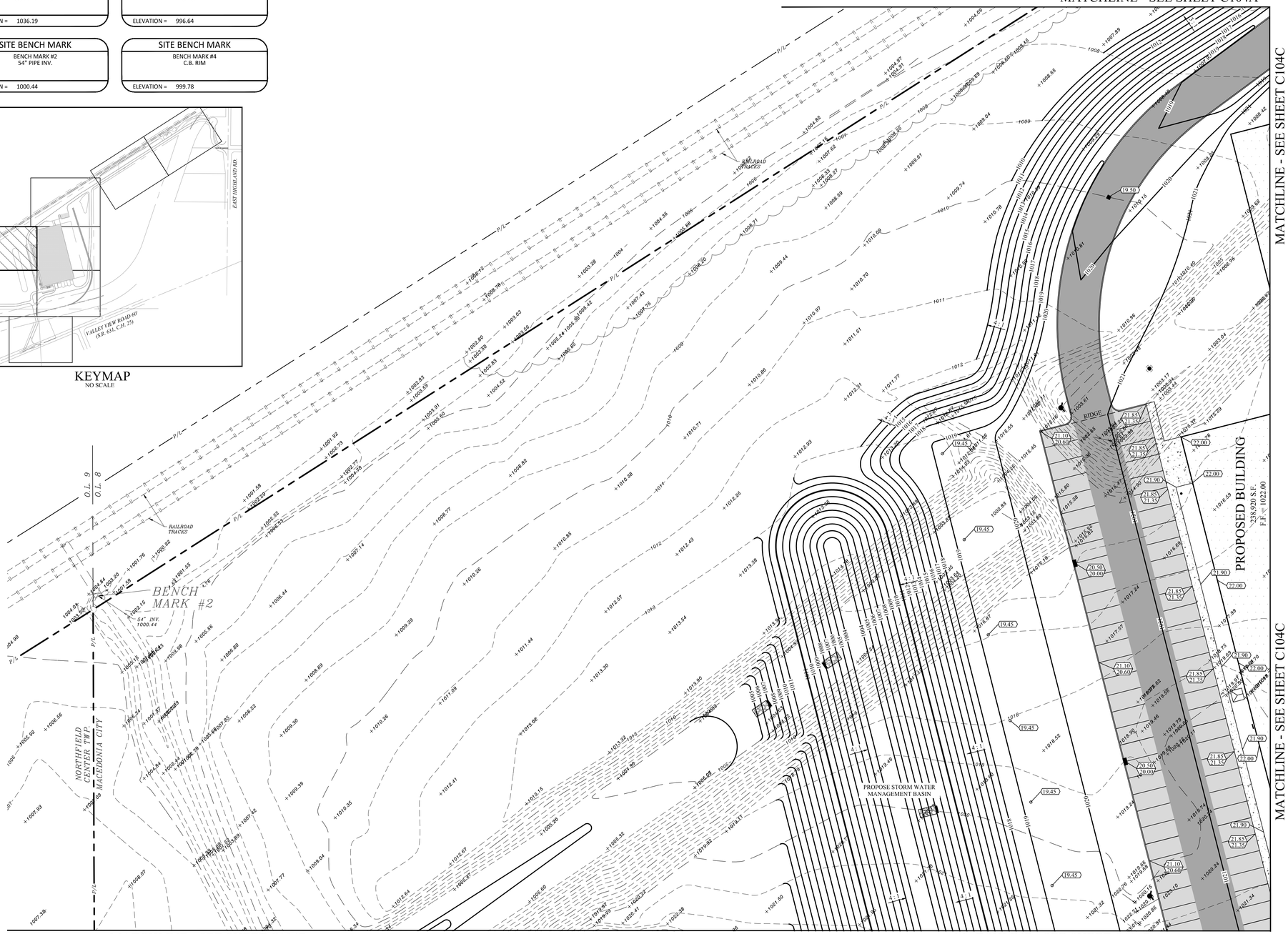
SITE BENCH MARK	SITE BENCH MARK
BENCH MARK #1 N.E. CORNER HEADWALL	BENCH MARK #3 TOP OF PIPE
ELEVATION = 1036.19	ELEVATION = 996.64

SITE BENCH MARK	SITE BENCH MARK
BENCH MARK #2 54" PIPE INV.	BENCH MARK #4 C.B. RIM
ELEVATION = 1000.44	ELEVATION = 999.78



KEYMAP
NO SCALE

MATCHLINE - SEE SHEET C104A



MATCHLINE - SEE SHEET C104C

MATCHLINE - SEE SHEET C104C

MATCHLINE - SEE SHEET C104D

MATCHLINE - SEE SHEET C104D

NOTE:
OWNER, ARCHITECT & CONTRACTOR SHALL REVIEW/COORDINATE PROPOSED LOADING DOCK GRADES/APPROACH ANGLES TO VERIFY COMPATIBILITY WITH INTENDED USE.

LEGEND

ITALICS TEXT REPRESENTS EXISTING CONDITION

NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

- 00.00 — PROPOSED SPOT GRADE
- 00.00 / 00.00 — PROPOSED GRADE AT CURB
- MEET EXIST — MEET EXISTING GRADE LABEL
- 0000.00 / 1000.00 — EXISTING SPOT GRADE

N

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

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OWNER:

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VALLEY VIEW, OHIO
MIKE HUS
PHONE: (989) 750-3878

PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

Issue Date
02-21-2025
03-17-2025
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PARTIAL GRADING PLAN

C104B
Project No. 2024-317

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MATCHLINE - SEE SHEET C104A

MATCHLINE - SEE SHEET C104A

PROPOSED BUILDING
238,920 S.F.
F.F. = 1022.00

FUTURE BUILDING EXPANSION

MATCHLINE - SEE SHEET C104E

MATCHLINE - SEE SHEET C104E

KEYMAP
NO SCALE

EAST HIGHLAND RD.

VALLEY VIEW ROAD 60' (S.R. 631, C.H. 25)

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SITE BENCH MARK
BENCH MARK #1 N.E. CORNER HEADWALL
ELEVATION = 1036.19

SITE BENCH MARK
BENCH MARK #2 54" PIPE INV.
ELEVATION = 1000.44

SITE BENCH MARK
BENCH MARK #3 TOP OF PIPE
ELEVATION = 996.64

SITE BENCH MARK
BENCH MARK #4 C.B. RIM
ELEVATION = 999.78

NOTE:
OWNER, ARCHITECT & CONTRACTOR SHALL REVIEW/COORDINATE PROPOSED LOADING DOCK GRADES/APPROACH ANGLES TO VERIFY COMPATIBILITY WITH INTENDED USE.

LEGEND

ITALICS TEXT REPRESENTS EXISTING CONDITION

NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

- 00.00 — PROPOSED SPOT GRADE
- 00.00 / 00.00 — PROPOSED GRADE AT CURB
- MEET EXIST — MEET EXISTING GRADE LABEL
- 0000.00 / 0000.00 / +1000.00 — EXISTING SPOT GRADE

N

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

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OWNER:

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MIKE HUS
PHONE: (989) 750-3878

PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

Issue Date
02-21-2025
03-17-2025
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PARTIAL GRADING PLAN

C104C
Project No. 2024-317

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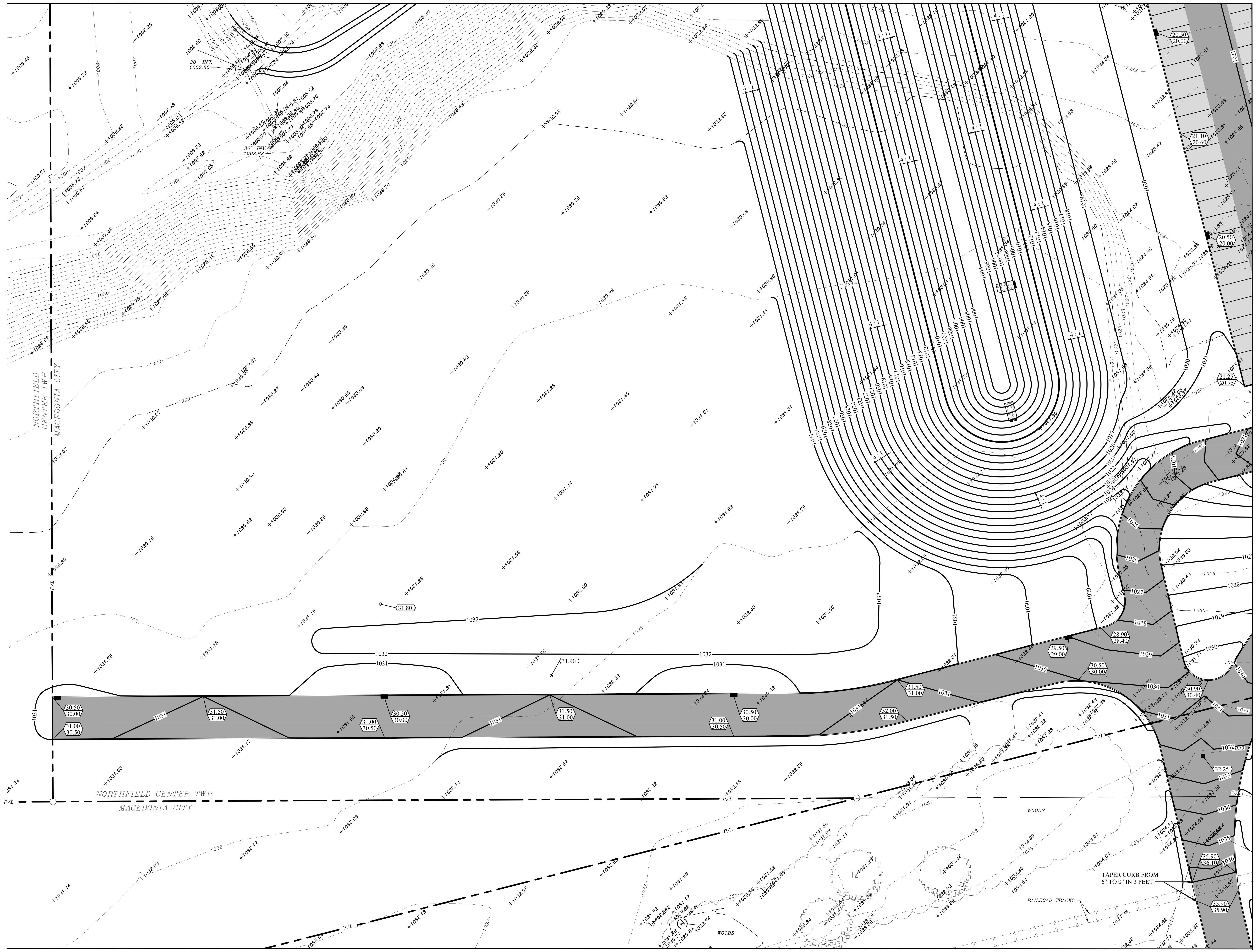
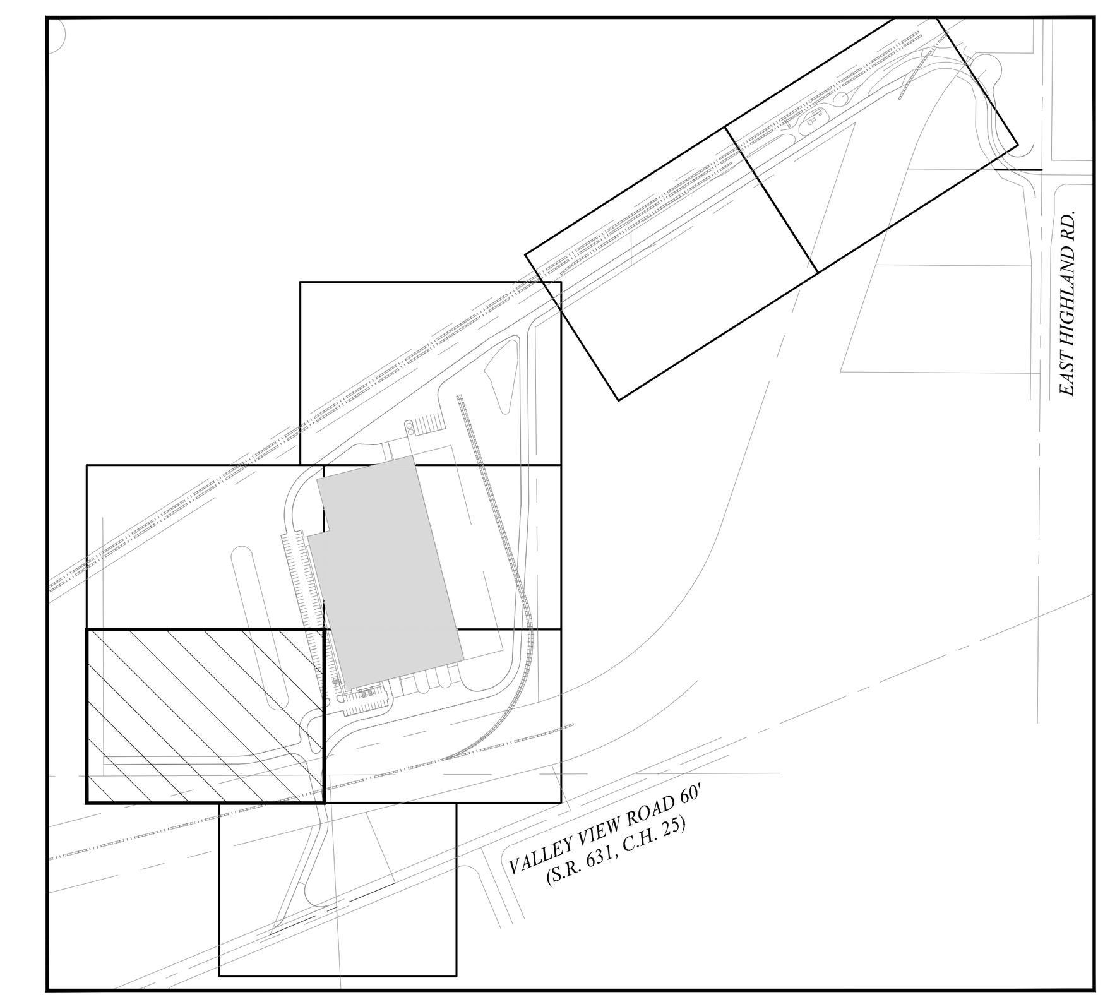


SITE BENCH MARK	
BENCH MARK #1 N.E. CORNER HEADWALL	ELEVATION = 1036.19
BENCH MARK #2 54" PIPE INV.	ELEVATION = 1000.44
BENCH MARK #3 TOP OF PIPE	ELEVATION = 996.64
BENCH MARK #4 C.B. RIM	ELEVATION = 999.78



KEYMAP
NO SCALE

NOTE:
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LEGEND

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NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

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- x 1000.00 — EXISTING SPOT GRADE

GRAPHIC SCALE
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(IN FEET)
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PARTIAL GRADING PLAN

C104D
Project No. 2024-317

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MATCHLINE - SEE SHEET C104C

MATCHLINE - SEE SHEET C104C

MATCHLINE - SEE SHEET C104D

PROPOSED BUILDING
238,920 S.F.
F.F. 1022.00

FUTURE BUILDING EXPANSION

PROP. RAILROAD SPURS

RAILROAD TRACKS

NORTHFIELD CENTER TWP.
MACEDONIA CITY

LOT 5 TRACT 3 SW

MATCHLINE - SEE SHEET C104F

SITE BENCH MARK
BENCH MARK #1 N.E. CORNER HEADWALL
ELEVATION = 1036.19

SITE BENCH MARK
BENCH MARK #2 54" PIPE INV.
ELEVATION = 1000.44

SITE BENCH MARK
BENCH MARK #3 TOP OF PIPE
ELEVATION = 996.64

SITE BENCH MARK
BENCH MARK #4 C.B. RIM
ELEVATION = 999.78

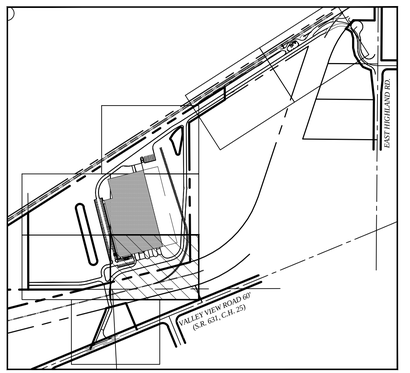
NOTE:
OWNER, ARCHITECT □ CONTRACTOR SHALL REVIEW/COORDINATE PROPOSED LOADING DOCK GRADES/APPROACH ANGLES TO VERIFY COMPATIBILITY WITH INTENDED USE.

LEGEND

ITALICS TEXT REPRESENTS EXISTING CONDITION

NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

- 00.00 — PROPOSED SPOT GRADE
- 00.00 / 00.00 — PROPOSED GRADE AT CURB
- MEET EXIST — MEET EXISTING GRADE LABEL
- 0000.00 — EXISTING SPOT GRADE



KEYMAP
NO SCALE

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GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

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330-329-2037
matt@webercivil.com

STATE OF OHIO
MATTHEW L WEBER
61709
REGISTERED
PROFESSIONAL ENGINEER

Reg. No.: 61709

CLIENT:

GEIS CONSTRUCTION

10020 AURORA-HUDSON RD.
STREETSBORO, OHIO
JEN DIASIO
PHONE: (216) 218-3507

OWNER:

PEAK NANO FILM MANUFACTURING

7700 HUB PARKWAY, SUITE
VALLEY VIEW, OHIO
MIKE HUS
PHONE: (989) 750-3878

PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

Issue Date
02-21-2025
03-17-2025
03-28-2025

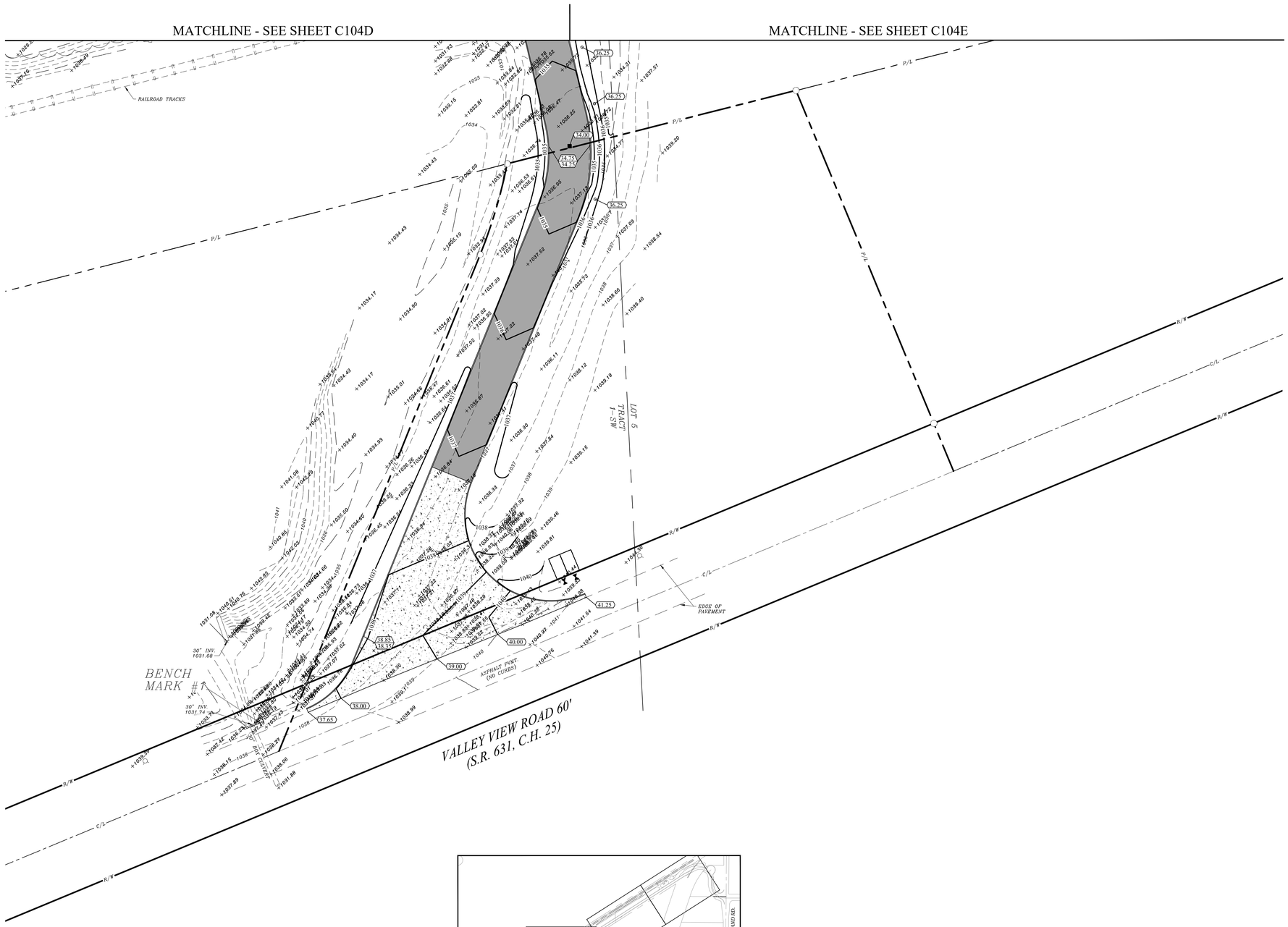
PARTIAL GRADING PLAN

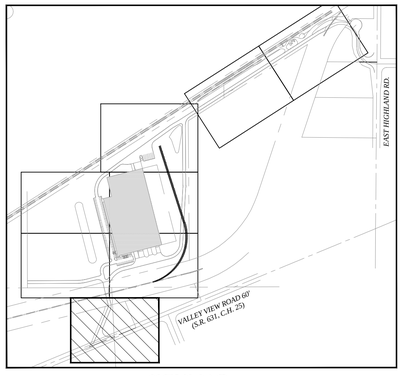
C104E
Project No. 2024-317

D:\Related - WORK\Civil 3D Projects 2024\2024-317 PNFM\Dwgs\2024-317 Site01D.dwg 3/28/2025 5:32:51 PM

MATCHLINE - SEE SHEET C104D

MATCHLINE - SEE SHEET C104E





KEYMAP
NO SCALE

SITE BENCH MARK	
BENCH MARK #1 N.E. CORNER HEADWALL	
ELEVATION =	1036.19

SITE BENCH MARK	
BENCH MARK #2 54" PIPE INV.	
ELEVATION =	1000.44

SITE BENCH MARK	
BENCH MARK #3 TOP OF PIPE	
ELEVATION =	996.64

SITE BENCH MARK	
BENCH MARK #4 C.B. RIM	
ELEVATION =	999.78

NOTE:
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- MEET EXIST — MEET EXISTING GRADE LABEL
- 0000.00 / 0000.00 / x1000.00 — EXISTING SPOT GRADE

N

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

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Reg. No.: 61709

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JEN DIASIO
PHONE: (216) 218-3507

OWNER:

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7700 HUB PARKWAY, SUITE
VALLEY VIEW, OHIO
MIKE HUS
PHONE: (989) 750-3878

PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

Issue Date
02-21-2025
03-17-2025
03-28-2025

PARTIAL GRADING PLAN

C104F
Project No. 2024-317

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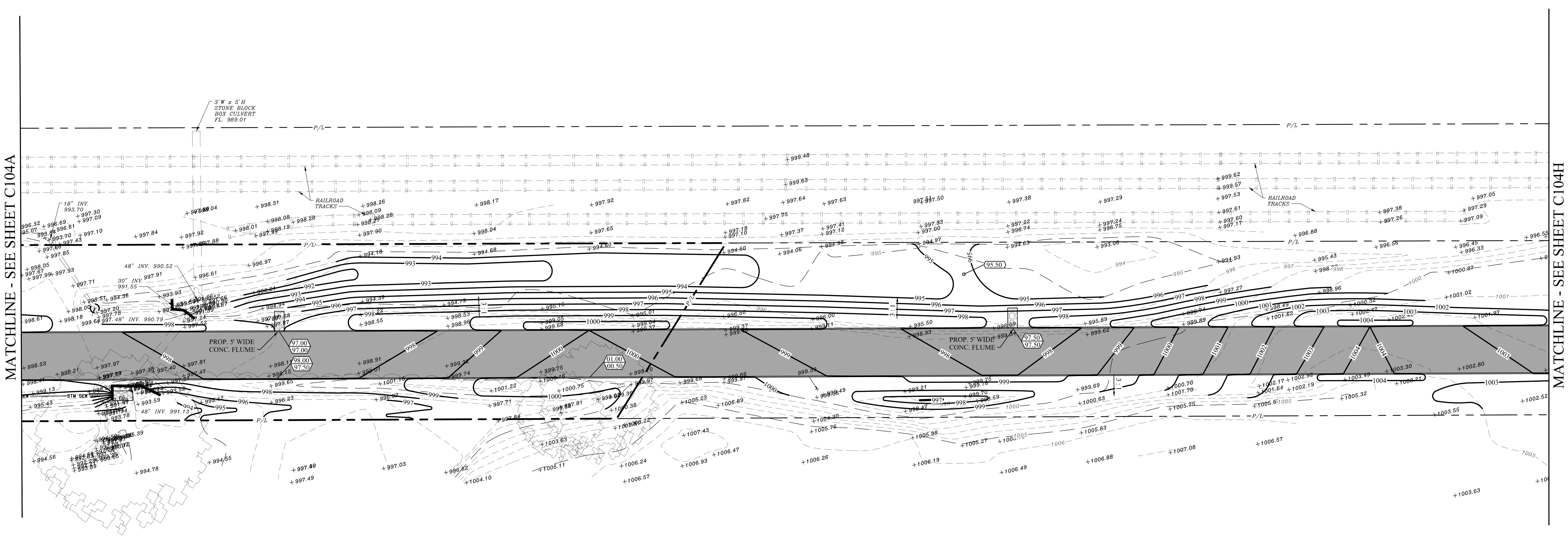

SITE BENCH MARK
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ELEVATION = 1036.19

SITE BENCH MARK
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ELEVATION = 1000.44

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ELEVATION = 996.64

SITE BENCH MARK
BENCH MARK #4 C.B. RIM
ELEVATION = 999.78

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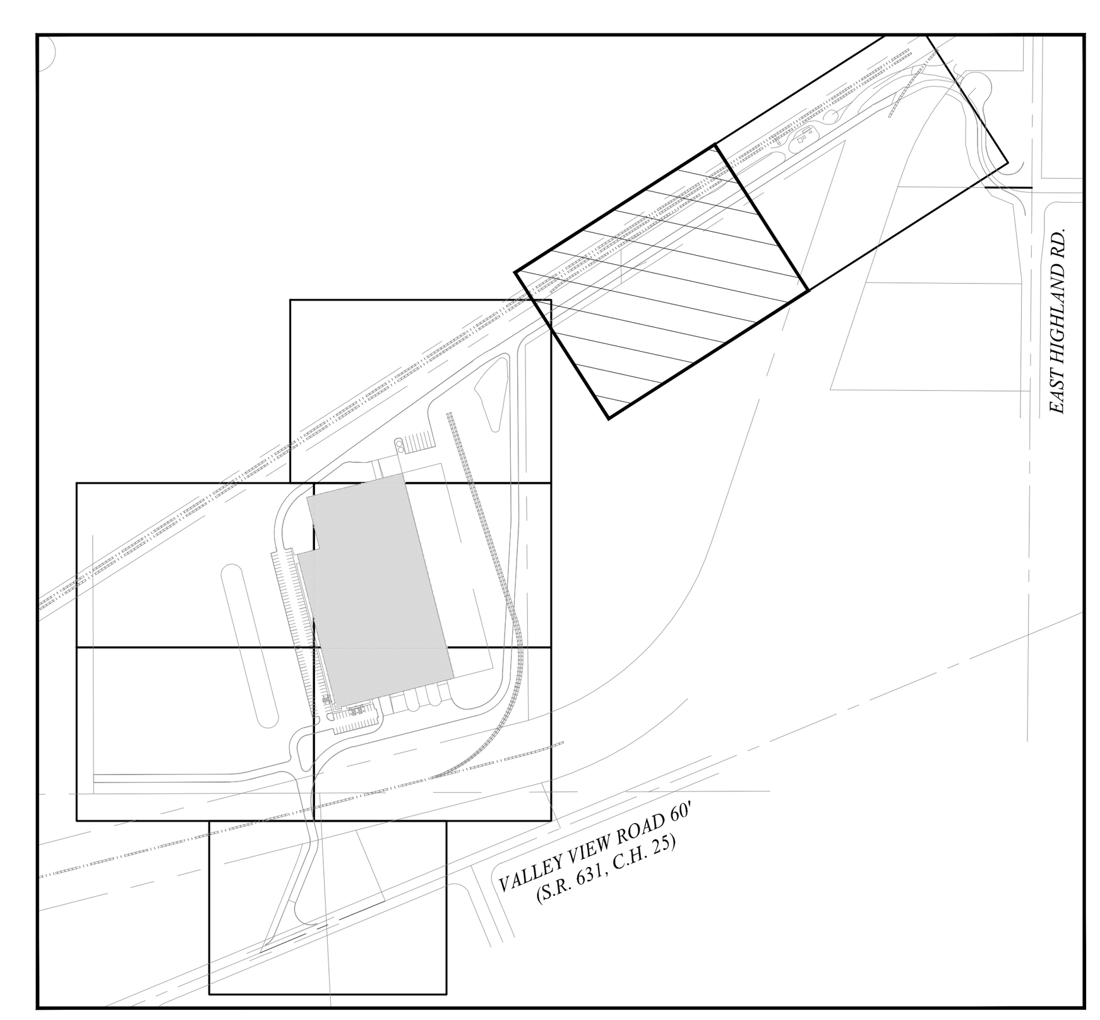
- x 1000.00 — EXISTING SPOT GRADE



KEYMAP
NO SCALE

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

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MACEDONIA, OHIO

Issue Date
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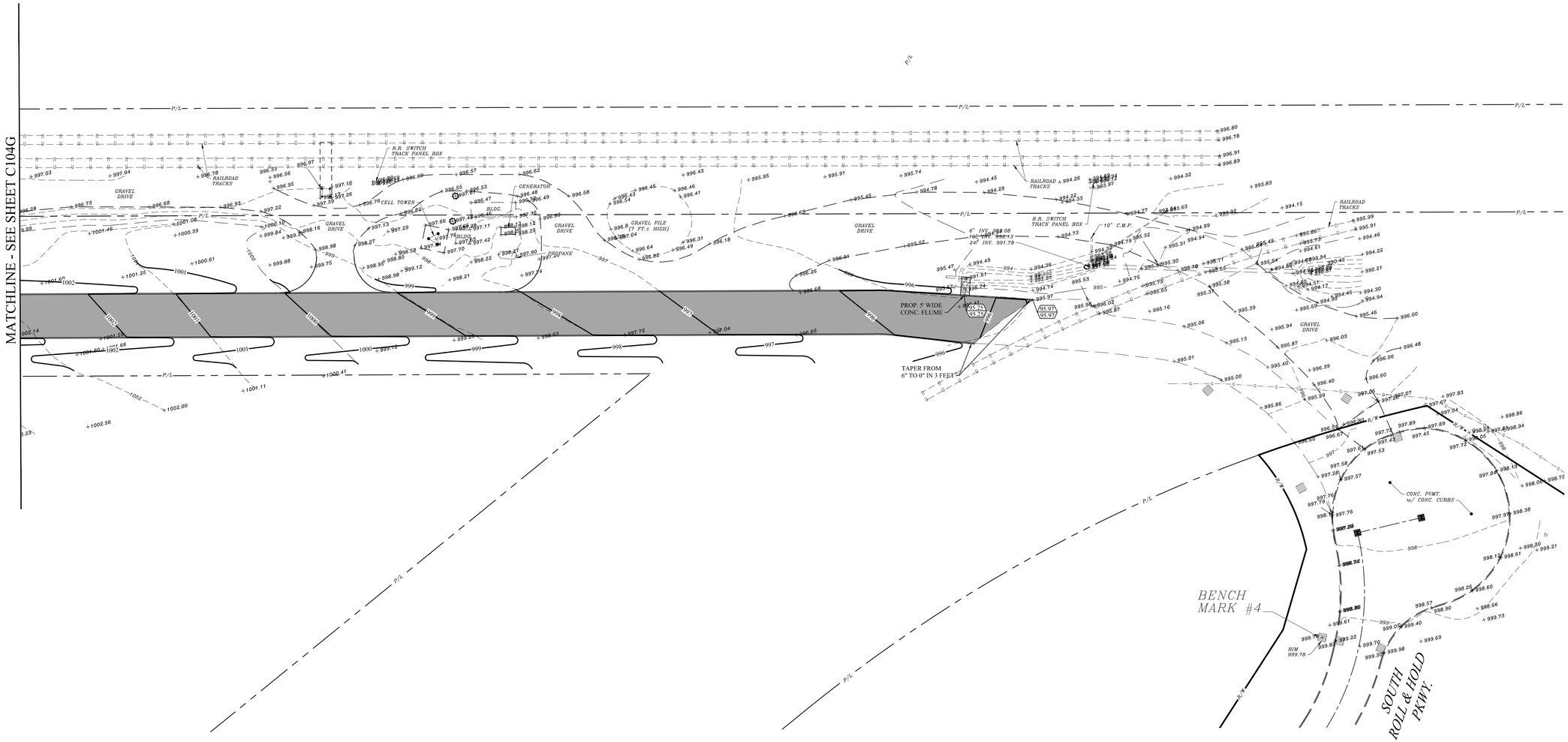
03-28-2025

PARTIAL GRADING PLAN

C104G
Project No. 2024-317

OHIO811.org Before You Dig

MATCHLINE - SEE SHEET C104G



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ELEVATION = 1036.19

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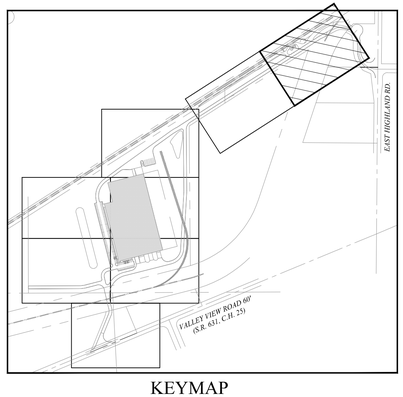
ELEVATION = 999.78

OHIO811.org Before You Dig



KEYMAP
NO SCALE

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Issue Date
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03-28-2025

PARTIAL GRADING PLAN

C104H

Project No. 2024-317

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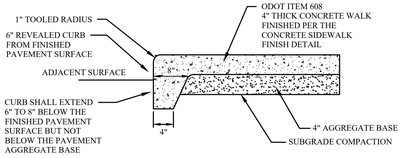
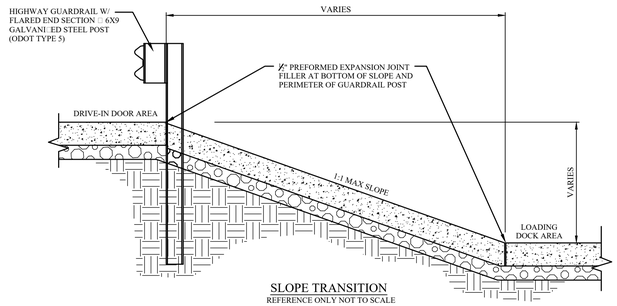


INTEGRAL CONCRETE CURB WALK DETAIL

REFERENCE ONLY NOT TO SCALE



SLOPE TRANSITION

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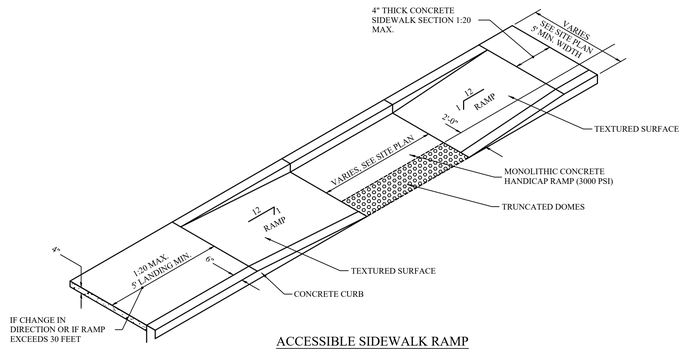

ACCESSIBLE SIDEWALK RAMP

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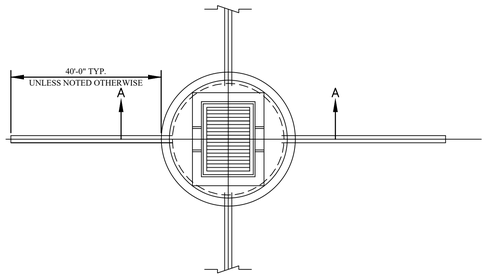
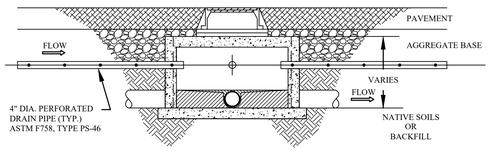


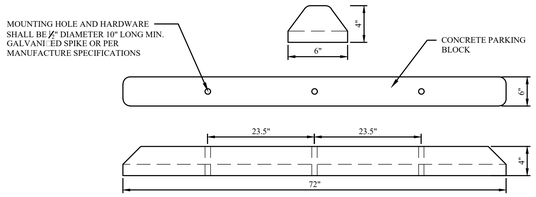
PLAN



SECTION A-A

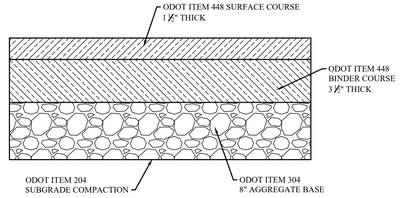
FINGER DRAIN DETAIL

REFERENCE ONLY NOT TO SCALE



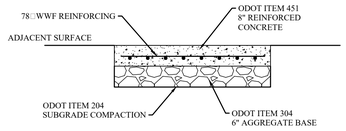
PROP. CONCRETE BUMPER BLOCK

REFERENCE ONLY NOT TO SCALE



PROP. HEAVY DUTY ASPHALT PAVEMENT

REFERENCE ONLY NOT TO SCALE
(CONTRACTOR SHALL VERIFY WITH CURRENT GEOTECHNICAL REPORT PROVIDED BY OWNER)



ALL EXTERIOR CONCRETE SHALL BE AIR-ENTRAINED 6% 1%.

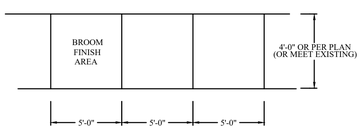
CONTROL JOINT/SAWCUTS

SOFF CUT SAW CUTS WITHIN 24 HOURS OF POUR TO BE T/4 (T SLAB THICKNESS). MAX SPACING SHALL BE 12'-0" O.C. MAXIMUM EACH WAY.

CONTROL JOINTS SHALL NOT TERMINATE AT ANY INTERSECTION JOINT (EITHER CONSTRUCTION OR CONTROL) SO AS TO CREATE A "T" INTERSECTION. EXCEPTION: SAWCUTS MAY TERMINATE AT UNDOWELED CONSTRUCTION JOINTS.

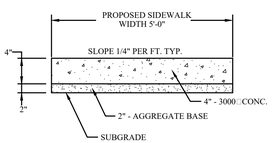
CONCRETE LOADING DOCK DETAIL

REFERENCE ONLY NOT TO SCALE



CONCRETE SIDEWALK FINISH AND JOINTS

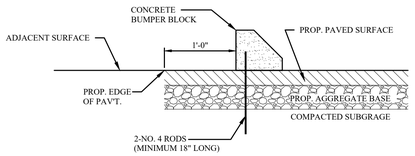
REFERENCE ONLY NOT TO SCALE



NOTE:
CRACK CONTROL SHALL BE AT FIFTEEN FOOT (15') INTERVALS AND SCORE MARKS SHALL BE AT FIVE FOOT (5') INTERVALS. CONSTRUCTION SHALL BE IN ACCORDANCE WITH O.D.O.T. ITEM 608. PRIOR TO THE START OF SIDEWALK CONSTRUCTION THE SUBGRADE MUST BE INSPECTED AND APPROVED BY THE OWNERS REPRESENTATIVE. ANY SETTLEMENT OR DEFICIENT AREAS IDENTIFIED BY THE OWNERS REPRESENTATIVE SHALL BE REPAIRED BY A A METHOD ACCEPTABLE TO THE OWNER. THE REPAIRED AREAS WILL BE SUBJECT TO COMPACTION TESTING AND APPROVAL BY THE OWNER PRIOR TO THE START OF SIDEWALK CONSTRUCTION.

CONCRETE SIDEWALK

REFERENCE ONLY NOT TO SCALE



BUMPER BLOCK DETAIL

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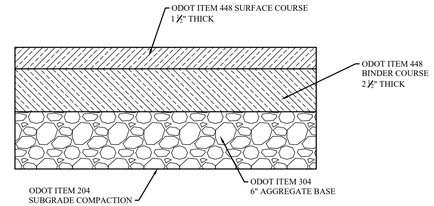
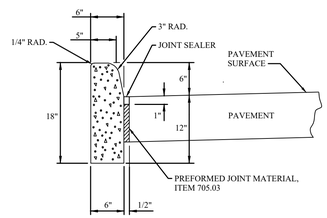


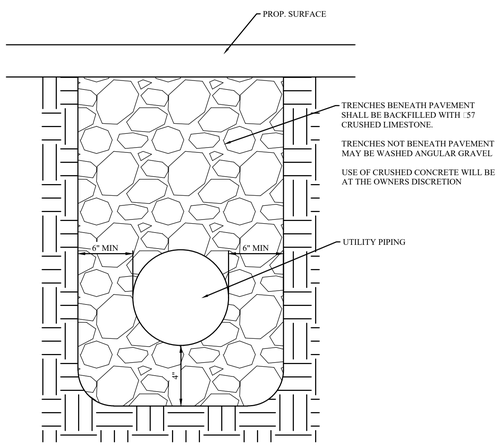
PROP. REGULAR DUTY ASPHALT PAVEMENT

REFERENCE ONLY NOT TO SCALE
(CONTRACTOR SHALL VERIFY WITH CURRENT GEOTECHNICAL REPORT PROVIDED BY OWNER)



ODOT TYPE 6 CONCRETE CURB

REFERENCE ONLY NOT TO SCALE



UTILITY TRENCH DETAIL

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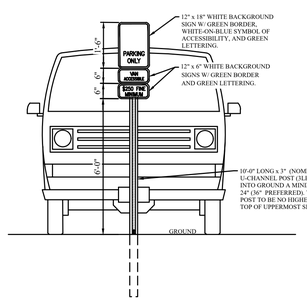
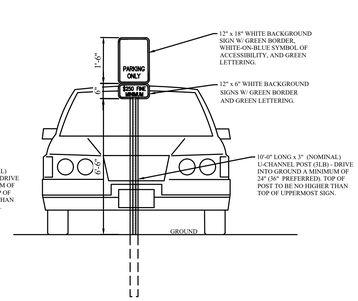


VAN ACCESSIBLE PARKING SPACE SIGN

NOT TO SCALE

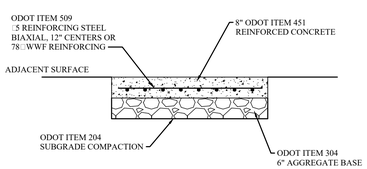


HANDICAPPED PARKING DETAIL

NOT TO SCALE

HANDICAPPED PARKING DETAIL

REFERENCE ONLY NOT TO SCALE



CONCRETE DRIVE APRON DETAIL

REFERENCE ONLY NOT TO SCALE

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PNFM
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MACEDONIA, OHIO

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03-28-2025

SITE DETAILS

C105
Project No. 2024-317

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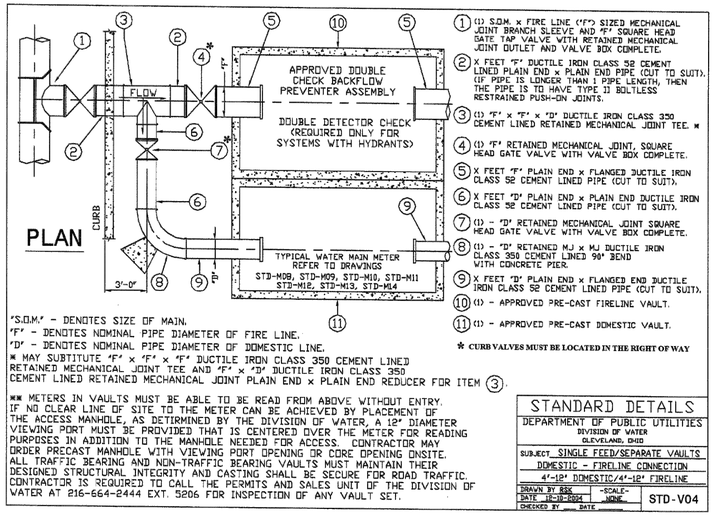
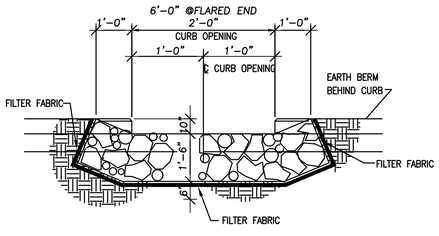
Sheet 6 of 27





TRANSVERSE SECTION THROUGH TYPICAL FLUME

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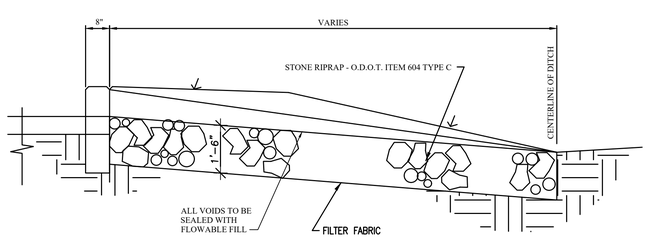

SECTION THROUGH TYPICAL FLUME

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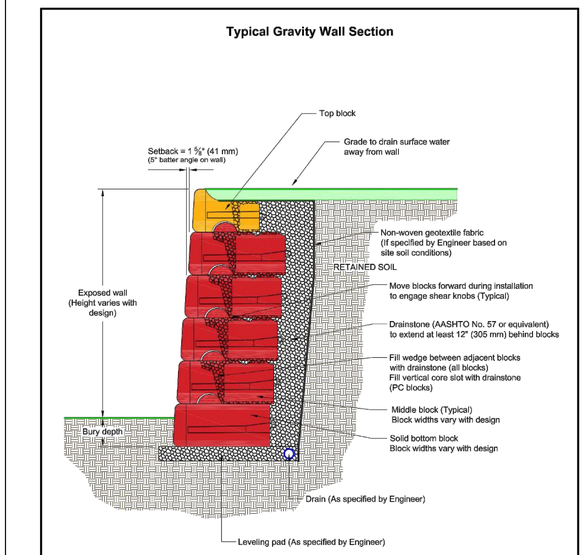

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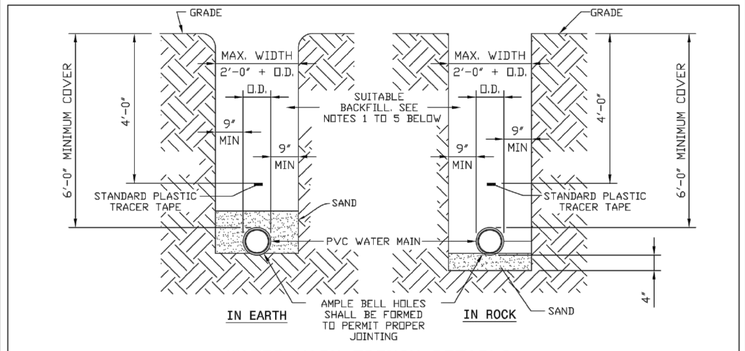
SITE DETAILS

C105A
Project No. 2024-317

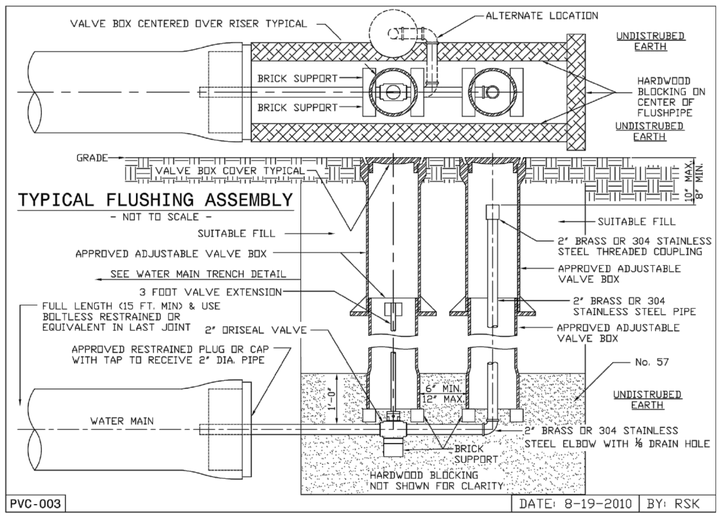


WATER MAIN TRENCH DETAILS

- NOT TO SCALE -

NOTES:
1) SUITABLE BACKFILL SHALL CONSIST OF EXCAVATED MATERIAL FREE OF ROCK (>3"), FROZEN EARTH AND DEBRIS. THE BACKFILL SHALL NOT BE ALLOWED TO FREE-FALL ONTO THE PREVIOUSLY PLACED PIPE. THE CONTRACTOR SHALL CONSOLIDATE THE BACKFILL IN SUCH A MANNER TO ENSURE THE MINIMUM POSSIBLE SETTLEMENT. PREMIUM BACKFILL IS REQUIRED UNDER EXISTING OR FUTURE PAVEMENTS, SIDEWALKS, AND/OR DRIVES OR WHEN REQUIRED BY THE LOCAL MUNICIPALITY. PREMIUM BACKFILL SHALL BE FULL DEPTH OF THE TRENCH.
2) PREMIUM BACKFILL SHALL BE LIMESTONE SCREENINGS GRADED PER ODOT 304.02 OR ODOT 411. NO SLAG IS PERMITTED.
3) CONTRACTOR SHALL USE SPECIAL CARE IN PLACING THE BACKFILL SO AS TO AVOID INJURING THE PIPE, DISTORTING OR MOVING THE PIPE WHEN PLACING THE BACKFILL.
4) MINIMUM COMPACTION FOR PREMIUM BACKFILL SHALL BE 95% STANDARD PROCTOR.
5) PAVEMENT, SIDEWALK OR DRIVES TO BE INSTALLED IN ACCORDANCE WITH LOCAL MUNICIPALITY'S SPECIFICATIONS.

PVC-001 | DATE: 11-1-09 | BY: DR



TYPICAL FLUSHING ASSEMBLY

- NOT TO SCALE -

PVC-003 | DATE: 8-19-2010 | BY: RSK

*CONNECTION SHALL BE MADE WITH RETAINED MECHANICAL JOINT SOLID SLEEVES (SHORT OR LONG PATTERN) DUCTILE IRON CLASS 350 OR CAST IRON CLASS 250 COMPRESSION COUPLINGS.

COMPRESSION COUPLINGS SHALL BE OF A GASKETED, SLEEVE TYPE WITH DIAMETERS TO PROPERLY FIT PLAIN END IRON PIPE. EACH COUPLING SHALL CONSIST OF ONE (1) MIDDLE RING, WITHOUT STOPS; TWO (2) FOLLOWER GLANDS; TWO (2) RUBBER-COMPOUND BUNA-N BLEND, WEDGE SECTION GASKETS; AND SUFFICIENT TRACKHEAD STAINLESS STEEL BOLTS AND NUTS (ASTM A276/A193/194, TYPE 304, EXTRA HEAVY HEX) TO PROPERLY COMPRESS THE GASKETS.

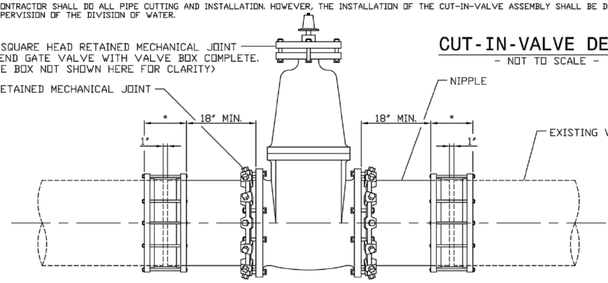
MIDDLE RING AND FOLLOWER GLANDS SHALL BE OF EITHER STEEL OR DUCTILE IRON (ASTM-A536).

THE COMPRESSION COUPLING SHALL BE WITHOUT STOPS AND BE RATED FOR A MINIMUM WORKING PRESSURE OF 250 PSI AND SHALL BE EQUAL TO THE DRESSER STYLE No's 38, 138 OR 162 (TRANSITION TYPE), OR SMITH-BLAIR 441 STRAIGHT AND TRANSITION COUPLINGS.

ALL BOLTS AND NUTS ON ALL MECHANICAL JOINTS, INCLUDING THOSE ON THE 'RETAINED' TYPE, SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINTING FOLLOWED BY AN ENCASEMENT OF POLYETHYLENE WRAPPING IN ACCORDANCE WITH ANSI/AWWA C-105/A21.5-88, CLASS 'C', METHOD 'B'.

THE DIVISION OF WATER WILL DETERMINE THE FIELD LOCATION OF THE CUT-IN-VALVE ASSEMBLY. THE DIVISION OF WATER WILL ALSO SET THE TIME OF INSTALLATION OF THE CUT-IN-VALVE ASSEMBLY.

THE CONTRACTOR SHALL DO ALL PIPE CUTTING AND INSTALLATION. HOWEVER, THE INSTALLATION OF THE CUT-IN-VALVE ASSEMBLY SHALL BE DONE UNDER THE SUPERVISION OF THE DIVISION OF WATER.



CUT-IN-VALVE DETAIL

- NOT TO SCALE -

NOTE:
BEFORE CUTTING EXISTING WATER MAIN, THE NIPPLES SHALL BE CONNECTED TO THE MECHANICAL JOINT BELL END GATE VALVE. AFTER CUTTING PIPE, FINAL CONNECTIONS SHALL BE MADE WITH COUPLINGS/SOLID SLEEVES AS SPECIFIED.

PVC-005 | DATE: 6-11-2001 | BY: RSK

CLEVELAND DIVISION OF WATER NOTES FOR NEW PVC WATER MAIN INSTALLATION

GENERAL:

1. ALL WATER WORK REQUIRED, WHETHER SHOWN ON THE PLANS OR AS DIRECTED BY THE CLEVELAND DIVISION OF WATER, SHALL BE AT THE EXPENSE OF THE PROJECT.

2. THE INFORMATION SHOWN ON THE CLEVELAND DIVISION OF WATER'S SUMMARY OF WORK/CHARGE LETTER AND STRIP MAPS ARE TAKEN FROM EXISTING AVAILABLE RECORDS, AND THEIR ACCURACY IS NOT GUARANTEED.

3. CALL THE INSPECTION AND ENFORCEMENT UNIT AT 216-664-2342 TO SCHEDULE A PRECONSTRUCTION MEETING. THE OPERATION OF ANY VALVE OR ALTERATION OF ANY PART OF THE WATER SYSTEM BY CONTRACTORS OR THEIR EMPLOYEES IS PROHIBITED WITHOUT THE SUPERVISION OF THE CLEVELAND DIVISION OF WATER INSPECTOR.

4. THE MUNICIPALITY SHALL REQUIRE THAT THE PROJECT'S PROFESSIONAL ENGINEER OBTAIN ACTUAL FIELD MEASUREMENTS OF THE MAIN DURING INSTALLATION AND SHALL FURNISH THE CWD INSPECTOR WITH RECORD PRINTS IN A FORM ACCEPTABLE TO THE DIVISION OF WATER. THE CLEVELAND DIVISION OF WATER WILL REQUIRE THE DELIVERY AND ACCEPTANCE OF TWO COPIES OF RECORD (AS BUILT) PRINTS BEFORE THE PRESSURE TEST AND CHLORINATION OF THE MAIN.

5. FOR THE PURPOSES OF CHLORINATION AND BACTERIOLOGICAL TESTING OF THE WATER MAINS THE CONTRACTOR SHALL PROVIDE AND INSTALL, AT EACH OF THE CHLORINATION PIT LOCATIONS SHOWN AND AT OTHER LOCATIONS DETERMINED BY THE DIVISION OF WATER, FLUSHING/SAMPLING TAPS OF SIZES TO BE DETERMINED BY THE DIVISION OF WATER. CHLORINATION PITS SHALL BE SIX (6) FOOT SQUARE MEETING OSHA STANDARDS.

6. A TWO YEAR WARRANTY, COMMENCING FROM THE DATE OF ACCEPTANCE OF THE FINAL CHLORINATION OF THE WATER MAIN INSTALLATION, SHALL BE PROVIDED BY THE BUILDER/DEVELOPER AND/OR CONTRACTOR FOR ALL WATER MAINS AND SERVICE CONNECTION WORK PERFORMED BY THE CONTRACTOR, INCLUDING RETAPS, SHOULD ANY LEAKS OCCUR AND REPAIRS BE REQUIRED DUE TO DEFECTIVE MATERIAL OR POOR WORKMANSHIP.

7. USE BACKFILL MATERIAL AS SPECIFIED AND COMPACT SUFFICIENTLY IN THOSE AREAS WHERE EXISTING MAINS AND WATER SERVICE CONNECTIONS ARE EXPOSED. (SEE DIVISION OF WATER STANDARD DETAIL PVC-001).

8. **ALL MATERIALS, INCLUDING BUT NOT LIMITED TO WATER MAINS, FIRE HYDRANTS, VALVES, CONNECTION MATERIALS AND OTHER WATER APPURTENANCES, SHALL BE NEW AND UNUSED AND SHALL CONFORM TO THE MOST CURRENT DIVISION OF WATER SPECIFICATIONS. ALL MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH DIVISION OF WATER'S STANDARDS.**

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING WATER MAINS AND APPURTENANCES THEREOF WHEN CONNECTING THE NEW WATER MAIN FOR THE HYDROSTATIC TEST. ALL REPAIRS TO DAMAGED EXISTING FACILITIES SHALL BE MADE BY THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE DIVISION OF WATER. (REFER TO THE THE ALTERNATE TEST DETAIL PVC-002 AS NEEDED).

10. ALL HYDROSTATIC PRESSURE TESTING SHALL BE DONE BY THE CONTRACTOR IN THE PRESENCE OF THE DIVISION OF WATER'S INSPECTOR. THE HYDROSTATIC TEST PRESSURE SHALL BE 75 PSI ABOVE THE STATIC PRESSURE PREVAILING AT THE SITE, BUT IN NO CASE LESS THAN 150 PSI. THE PRESSURE TEST SHALL BE FOR A DURATION OF TWO (2) HOURS WITH THE PRESSURE BEING MAINTAINED WITHIN 5 PSI OF THE REQUIRED TEST PRESSURE. SHOULD THE PRESSURE TEST FAIL THE CONTRACTOR SHALL FIND AND CORRECT THE DEFICIENCY(IES) TO THE SATISFACTION OF THE DIVISION OF WATER AND REPEAT THE TWO (2) HOUR PRESSURE TEST.

WATER MAINS:

11A. ALL PIPE, UNLESS OTHERWISE CALLED FOR , SHALL BE POLYVINYL CHLORIDE (PVC) PRESSURE PIPE IN ACCORDANCE AWWA C-900-97 CLASS 200 DR C-909-98 200 PSI DR BETTER. JOINTS SHALL BE MADE UTILIZING A STAB TYPE, RUBBER GASKETED BELL & SPIGOT, SOLVENT CEMENT TYPE JOINTS WILL NOT BE PERMITTED. STANDARD PLASTIC TRACER TAPE IS TO BE BURIED 4'-0" AND LOCATED DIRECTLY ABOVE THE WATERMAIN.

11B. ALL FITTINGS, UNLESS OTHERWISE CALLED FOR, SHALL BE APPROVED DUCTILE IRON, CLASS 350, CEMENT LINED OR FUSION BONDED EPOXY COATED. ALL FITTINGS AND PIPE CONNECTED TO FITTINGS SHALL BE RESTRAINED USING A 'RETAINED' MECHANICAL JOINT CONFORMING TO THE MATERIAL AND PERFORMANCE REQUIREMENTS OF ANSI/AWWA C-110/A2110 AND ANSI/AWWA C-111/A21.11, OR 'COMPACT' FITTINGS IN ACCORDANCE WITH ANSI/AWWA C-153/A21.53. EXCEPT FOR ANCHOR TEES, REDUCERS OR OTHER SPECIAL CIRCUMSTANCES WHEN DIRECTED BY CLEVELAND DIVISION OF WATER, ALL FITTINGS ARE TO HAVE BELL ENDS.

11C. ALL BOLTS AND NUTS ON ALL 'RETAINED' MECHANICAL JOINTS SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINTING FOLLOWED BY AN ENCASEMENT OF POLYETHYLENE WRAPPING IN ACCORDANCE WITH ANSI/AWWA C-105/A21.5-88, CLASS 'C', METHOD 'B'.

11D. WHERE SHOWN ON THE PLANS, OR WHEN OTHERWISE CALLED FOR, DUCTILE IRON PIPE AND FITTINGS SHALL HAVE AN APPROVED 'TYPE I' OR 'TYPE II' BOLTLESS RESTRAINED PUSH-ON JOINTS TO THE LIMITS SHOWN ON THE DRAWINGS. WHERE NOTED (AWWA C-900 RJ) PVC BOLTLESS RESTRAINED PIPE MAY USED.

11E. AT THE END OF EACH WORKDAY, THE CONTRACTOR SHALL PLUG ALL OPEN PIPE ENDS WITH WATER TIGHT PLUGS AS PER THE 'PREVENTITIVE AND CORRECTIVE MEASURES DURING CONSTRUCTION' SECTION OF THE MOST CURRENT REVISION OF AWWA C-651 AS TO PREVENT THE INFILTRATION OR INTRUSION OF ANY FOREIGN OBJECTS OR MATERIALS. DATE STAMPED DIGITAL PHOTOS SHALL BE PROVIDED FOR EACH WORKDAY DEMONSTRATING THAT PROPER AWWA C-651 METHODS WERE USED TO PLUG ALL OPEN WATER MAIN ENDS. EACH PHOTO SHALL CLEARLY IDENTIFY THE STATION AT WHICH THE PIPE IS PLUGGED. THE STATIONING SHALL BE SHOWN BY THE USE OF A STATION MARKER PLACED AT THE PLUGGED PIPE END.

PHOTOS SHALL BE SUBMITTED ON A DAILY BASIS UNLESS OTHERWISE DEFINED BY THE CWD INSPECTOR OR ENGINEER. ALL PHOTOS TAKEN OVER THE COURSE OF THE PROJECT SHALL BE SUBMITTED BY THE CONTRACTOR AS PART OF THE AS-BUILT SUBMITTAL. AS-BUILTS SHALL BE CONSIDERED INCOMPLETE WITHOUT SAID COLLECTION OF DIGITAL PHOTOS.

11F. ALL PVC PIPE SHALL BE INSTALLED WITH A CONTINUOUS RUN OF INSULATED #12 GAUGE COPPER WIRE TAPED TO THE TOP OF THE PIPE EVERY 5 FEET. BRING TRACE WIRE TO THE SURFACE AT EVERY VALVE BOX, OR HYDRANT (SEE DETAILS). ALL SPLICES OR CONNECTIONS TO THE WIRE ARE TO BE MADE USING APPROVED DIRECT BURY LUGS OR NUTS. SHOULD THE TYPE OF PIPE CHANGE TO DUCTILE IRON PIP, THEN TRACE WIRE SHOULD BE TERMINATED AT THE FIRST VALVE BOX OR HYDRANT AFTER THE TRANSITION IS MADE.

PVC-011A | DATE: 12-17-2009 | BY: RSK

HYDRANTS:

12A. IN ALL HYDRANT INSTALLATIONS THE CONTRACTOR SHALL FACE ALL HYDRANT'S 4' (STEAMER) NOZZLE TOWARD THE PAVEMENT PRIOR TO TESTING AND CHLORINATION OF WATER MAINS. CONTRACTOR SHALL CONSULT WITH THE LOCAL MUNICIPALITY'S ENGINEERING OR SERVICE DEPARTMENT TO OBTAIN HYDRANT MODEL AND NOZZLE THREAD REQUIREMENTS IF NOT INDICATED ON THE APPROVED PLANS.

12B. HYDRANT ASSEMBLIES SHALL BE CONSTRUCTED OF DUCTILE IRON (CL. 52) CEMENT LINED PIPE.

VALVES

13. ALL VALVES SHALL BE AN APPROVED MODEL RESILIENT SEATED GATE VALVES AS PER THE MOST CURRENT VERSION OF AWWA C509 OR C515.

CONNECTIONS:

14. WATER CONNECTIONS SHOWN ON THESE DRAWINGS ARE FOR REFERENCE ONLY AND ARE NOT PART OF THE WATER MAIN APPROVAL. ADDITIONAL PERMITS FOR SERVICE CONNECTIONS MUST BE OBTAINED FROM THE DIVISION OF WATER PRIOR TO INSTALLATION OF ANY PORTION OF THE SERVICE CONECTION(S). IT IS THE CONTRACTORS RESPONSIBILITY TO ARRANGE FOR PERMITS FOR ALL SIZE WATER SERVICE CONNECTIONS BEFORE PERFORMING ANY WORK. THE AMOUNT OF THE CHARGES CAN BE OBTAINED FROM THE DIVISION OF WATER, PERMITS AND SALES SECTION AT 216-664-2444 X5203.

15. ONE INCH SERVICE CONNECTIONS SHALL BE PERMITTED TO SERVICE HOMES BASED ON THE FOLLOWING CRITERIA:

- PEAK FLOW DEMANDS DO NOT EXCEED 25 GPM FOR AN INDIVIDUAL HOME/UNIT. INCLUSIVE OF ALL USAGE (FIRE, DOMESTIC AND/OR IRRIGATION) AND
- LENGTH OF ONE INCH CONNECTION DOES NOT EXCEED 50 FEET AS MEASURED FROM THE MAIN TO THE CURB VALVE.

ANY SERVICE REQUESTS DIFFERING FROM THE STATED CRITERIA SHALL REQUIRE THE SUBMITTAL OF A COMPLETE WATER SERVICE APPLICATION. PEAK DEMANDS ARE TO BE ASSESSED ON APPLICATION AND SETBACKS ARE TO SHOWN ON AN ACCOMPANYING SITE PLAN. SITE PLANS SHALL SHOW WATER METER VAULTS IN THE RIGHT OF WAY OR IN AN EASEMENT CONTIGUOUS TO THE RIGHT OF WAY FOR ANY HOMES/UNITS WITH SETBACKS GREATER THAN 150 FEET. EASEMENTS ARE TO BE PROVIDED WITH THE SERVICE CONNECTION APPLICATION SUBMITTAL.

16. ALL WATER MAIN CURB VALVE BOXES & METER VAULTS WILL BE INSTALLED IN GRASS AREAS WHEN POSSIBLE.

17. SERVICE SADDLES SHALL BE USED FOR ALL SERVICE CONNECTIONS. THE OUTLET SHALL BE TAPPED WITH EITHER A.W.W.A. TAPER (C.C.) OR A.W.W.A. F.I.P.T. THREADS. SADDLES SHALL BE MANUFACTURED IN ACCORDANCE WITH ALL APPLICABLE PARTS OF ANSI/AWWA C800-NSF 61 CERTIFIED, AND BE APPROVED BY THE DIVISION OF WATER.

EMERGENCIES:

18. IF A WATER MAIN OR SERVICE CONNECTION BREAK OCCURS DURING CONSTRUCTION AND EMERGENCY ASSISTANCE IS REQUIRED, PLEASE NOTIFY THE DIVISION OF WATER AT 216-664-3060.

PVC-011B | DATE: 2-4-2009 | BY: RSK

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STATE OF OHIO
MATTHEW L WEBER
61709
REGISTERED
PROFESSIONAL ENGINEER

Reg. No.: 61709

CLIENT:

GEIS CONSTRUCTION

10020 AURORA-HUDSON RD.
STREETSBORO, OHIO
JEN DIASIO
PHONE: (216) 218-3507

OWNER:

PEAK NANO FILM MANUFACTURING

7700 HUB PARKWAY, SUITE
VALLEY VIEW, OHIO
MIKE HUS
PHONE: (989) 750-3878

PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

Issue Date
02-21-2025
03-17-2025
03-28-2025

SITE DETAILS

C105B
Project No. 2024-317

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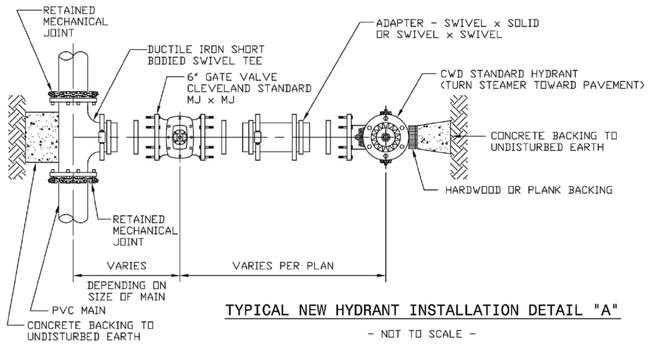

TYPICAL NEW HYDRANT INSTALLATION DETAIL "A"

- NOT TO SCALE -

NOTE: ALL MATERIAL SHALL BE DUCTILE IRON (CL. 52) CEMENT LINED PIPE.

IN LIEU OF SWIVEL BRANCH TEES AND ADAPTERS CONTRACTORS MAY FURNISH HYDRANT BRANCHES HAVING RETAINED MECHANICAL JOINTS INCLUDING HYDRANT SHOE. ALL MECHANICAL JOINTS SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINT. ALL MECHANICAL JOINTS SHALL BE POLYETHYLENE WRAPPED IN ACCORDANCE WITH AWWA C-1-5/A21.5-88 CLASS 'C' METHOD 'B'.

ALL BOLTS AND NUTS FURNISHED WITH RETAINED MECHANICAL JOINTS INCLUDING RETAINER OR WEDGE ACTION TYPE GLANDS SHALL BE COPPER-BEARING DUCTILE IRON, OR EQUIVALENT HIGH STRENGTH, LOW ALLOY CORROSION RESISTANT STEEL.

PVC-H09 | DATE: 3-4-2002 | BY: RSK

NOTE:
IN LIEU OF SWIVEL BRANCH TEES AND ADAPTERS CONTRACTORS MAY FURNISH HYDRANT BRANCHES HAVING RETAINED MECHANICAL JOINTS INCLUDING HYDRANT SHOE. ALL MECHANICAL JOINTS SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINT. ALL MECHANICAL JOINTS SHALL BE POLYETHYLENE WRAPPED IN ACCORDANCE WITH AWWA C-1-5/A21.5-88 CLASS 'C' METHOD 'B'.

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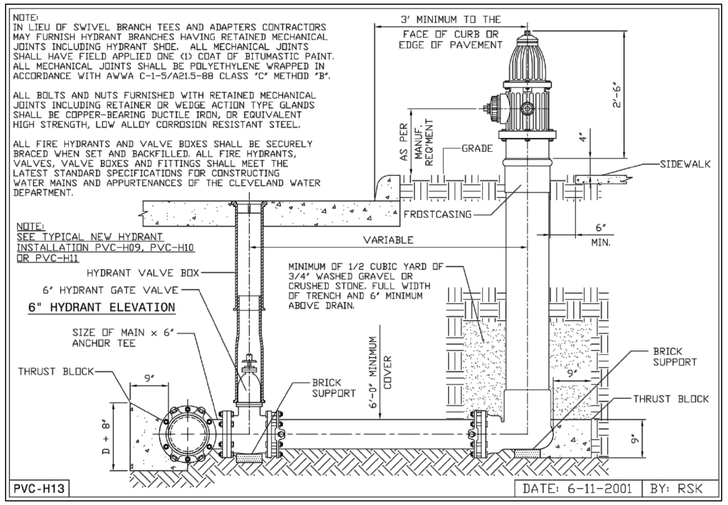
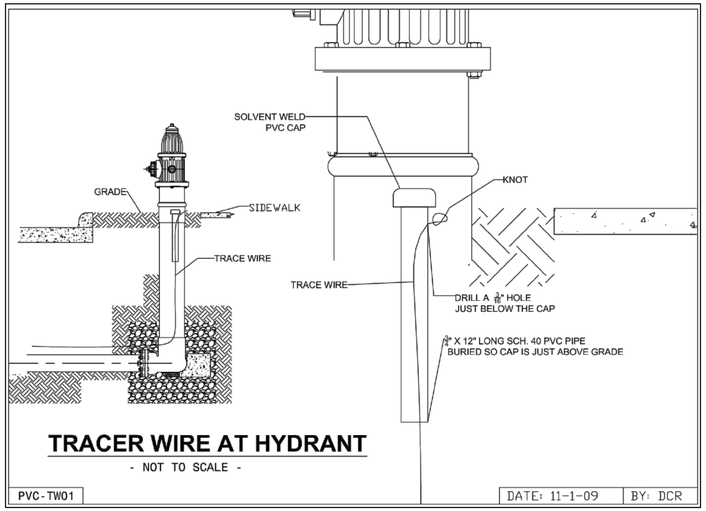
ALL FIRE HYDRANTS AND VALVE BOXES SHALL BE SECURELY BRACED WHEN SET AND BACKFILLED. ALL FIRE HYDRANTS, VALVES, VALVE BOXES AND FITTINGS SHALL MEET THE LATEST STANDARD SPECIFICATIONS FOR CONSTRUCTING WATER MAINS AND APPURTENANCES OF THE CLEVELAND WATER DEPARTMENT.

NOTE:
SEE TYPICAL NEW HYDRANT INSTALLATION PVC-H09, PVC-H10 OR PVC-H11



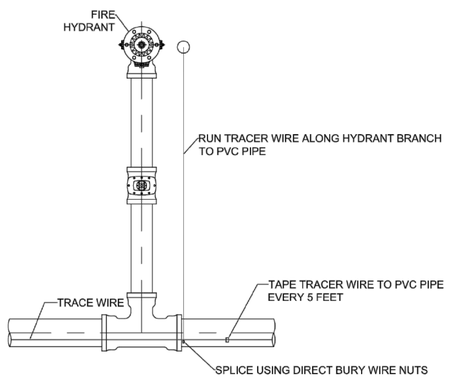
PVC-H13 | DATE: 6-11-2001 | BY: RSK



TRACER WIRE AT HYDRANT

- NOT TO SCALE -

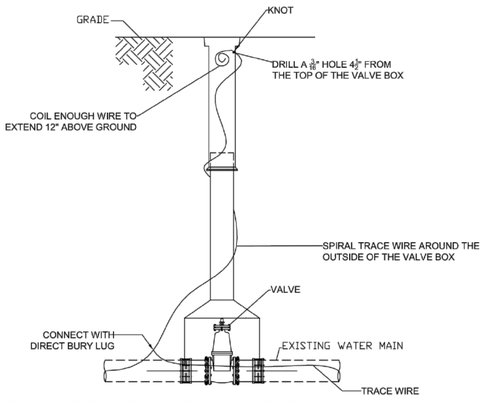
PVC-TW01 | DATE: 11-1-09 | BY: DCR



TRACER WIRE AT HYDRANT TEE

- NOT TO SCALE -

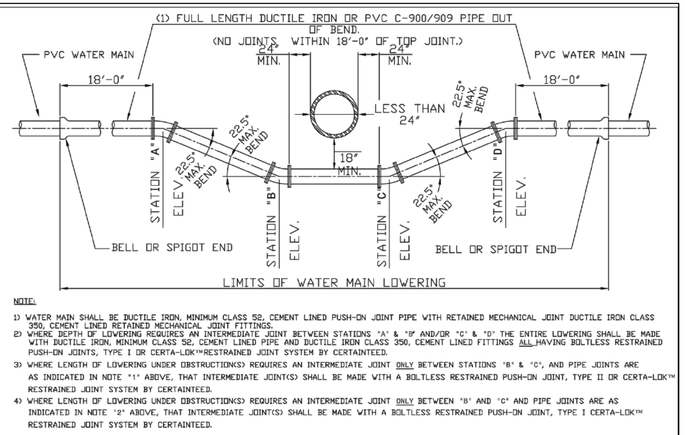
PVC-TW02 | DATE: 11-1-09 | BY: DCR



TRACER WIRE AT LINE VALVE BOX

- NOT TO SCALE -

PVC-TW03 | DATE: 11-1-09 | BY: DCR

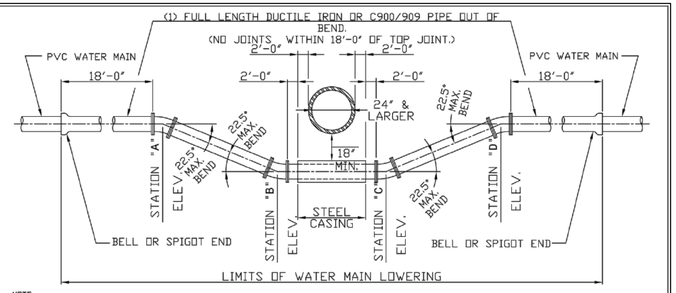


NOTE:
1) WATER MAIN SHALL BE DUCTILE IRON, MINIMUM CLASS 52, CEMENT LINED PUSH-ON JOINT PIPE WITH RETAINED MECHANICAL JOINT DUCTILE IRON CLASS 350, CEMENT LINED RETAINED MECHANICAL JOINT FITTINGS.
2) WHERE DEPTH OF LOWERING REQUIRES AN INTERMEDIATE JOINT BETWEEN STATIONS 'A' & 'B' AND/OR 'C' & 'D' THE ENTIRE LOWERING SHALL BE MADE WITH DUCTILE IRON, MINIMUM CLASS 52, CEMENT LINED PIPE AND DUCTILE IRON CLASS 350, CEMENT LINED FITTINGS ALL HAVING BOLTLESS RESTRAINED PUSH-ON JOINTS, TYPE I OR CERTA-LOK™ RESTRAINED JOINT SYSTEM BY CERTAINTEED.
3) WHERE LENGTH OF LOWERING UNDER OBSTRUCTION(S) REQUIRES AN INTERMEDIATE JOINT ONLY BETWEEN STATIONS 'B' & 'C', AND PIPE JOINTS ARE AS INDICATED IN NOTE '1' ABOVE, THAT INTERMEDIATE JOINT(S) SHALL BE MADE WITH A BOLTLESS RESTRAINED PUSH-ON JOINT, TYPE II OR CERTA-LOK™ RESTRAINED JOINT SYSTEM BY CERTAINTEED.
4) WHERE LENGTH OF LOWERING UNDER OBSTRUCTION(S) REQUIRES AN INTERMEDIATE JOINT ONLY BETWEEN 'B' AND 'C' AND PIPE JOINTS ARE AS INDICATED IN NOTE '2' ABOVE, THAT INTERMEDIATE JOINT(S) SHALL BE MADE WITH A BOLTLESS RESTRAINED PUSH-ON JOINT, TYPE I CERTA-LOK™ RESTRAINED JOINT SYSTEM BY CERTAINTEED.

DETAIL FOR WATER MAIN LOWERING UNDER OBSTRUCTIONS LESS THAN 24" IN DIAMETER OR WIDTH FOR "NEW CONSTRUCTION"

- NOT TO SCALE -

PVC-L04 | DATE: 11-1-09 | BY: DR



NOTE:
1) WATER MAIN SHALL BE DUCTILE IRON, MINIMUM CLASS 52, CEMENT LINED PUSH-ON JOINT PIPE WITH RETAINED MECHANICAL JOINT DUCTILE IRON CLASS 350, CEMENT LINED RETAINED MECHANICAL JOINT FITTINGS.
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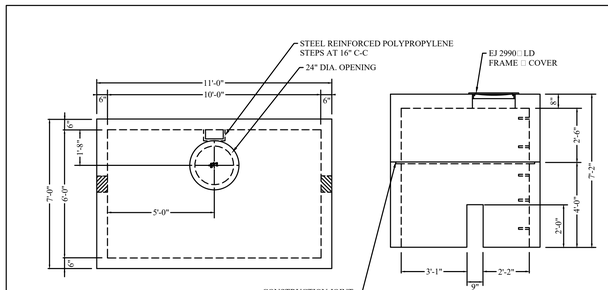
3) WHERE LENGTH OF LOWERING UNDER OBSTRUCTION(S) REQUIRES AN INTERMEDIATE JOINT ONLY BETWEEN STATIONS 'B' & 'C', AND PIPE JOINTS ARE AS INDICATED IN NOTE '1' ABOVE, THAT INTERMEDIATE JOINT(S) SHALL BE MADE WITH A BOLTLESS RESTRAINED PUSH-ON JOINT, TYPE II OR CERTA-LOK™ RESTRAINED JOINT SYSTEM BY CERTAINTEED.
4) WHERE LENGTH OF LOWERING UNDER OBSTRUCTION(S) REQUIRES AN INTERMEDIATE JOINT ONLY BETWEEN 'B' AND 'C' AND PIPE JOINTS ARE AS INDICATED IN NOTE '2' ABOVE, THAT INTERMEDIATE JOINT(S) SHALL BE MADE WITH A BOLTLESS RESTRAINED PUSH-ON JOINT, TYPE I CERTA-LOK™ RESTRAINED JOINT SYSTEM BY CERTAINTEED.

DETAIL FOR WATER MAIN LOWERING UNDER OBSTRUCTIONS 24" & LARGER IN DIAMETER OR WIDTH FOR "NEW CONSTRUCTION"

- NOT TO SCALE -

PVC-L05 | DATE: 11-1-09 | BY: DR



TOP VIEW

RIGHT SIDE VIEW

NOTES:
1. APPROVED BY THE CITY OF CLEVELAND DIVISION OF WATER.
2. PRECAST CONCRETE TO A COMPRESSIVE STRENGTH OF 5,000 PSI AT 28 DAYS.
3. HEAVIEST LIFT 3.42 YDS. □13,840□

MACK ITEM□
20501N
20511N
87010
51012 (1 CARTON MASTIC)

M10MV METER VAULT
NON-TRAFFIC BEARING
4" DOMESTIC SERVICE

DRAWN BY: ADM	SCALE: 3/8"□1'	DRAWING NO.:
DATE: 3/4/02	REV: 1/17/20 REA	M10MV-NT

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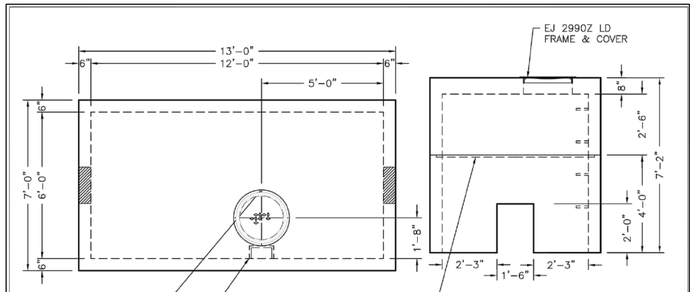

TOP VIEW

RIGHT SIDE VIEW

NOTES:
1. APPROVED BY THE CITY OF CLEVELAND DIVISION OF WATER.
2. PRECAST CONCRETE TO A COMPRESSIVE STRENGTH OF 5,000 PSI AT 28 DAYS.
1. HEAVIEST LIFT 3.95 YDS = 15,990#

PART #
20820N
20821N
87010
51012 (1 CARTON MASTIC)

MFV12 METER VAULT
NON-TRAFFIC BEARING
FIRE SERVICE WITH BACKFLOW PREVENTOR

DRAWN BY: BK	SCALE: 3/8"=1'	DRAWING NO.:
DATE: 10/8/4/11	REV: 1/23/20 REA	MFV6C12-NT

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PROFESSIONAL ENGINEER

Reg. No.: 61709

CLIENT:

GEIS CONSTRUCTION

10020 AURORA-HUDSON RD.
STREETSBORO, OHIO
JEN DIASIO
PHONE: (216) 218-3507

OWNER:

PEAK NANO FILM MANUFACTURING

7700 HUB PARKWAY, SUITE
VALLEY VIEW, OHIO
MIKE HUS
PHONE: (989) 750-3878

PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

Issue Date
02-21-2025
03-17-2025
03-28-2025

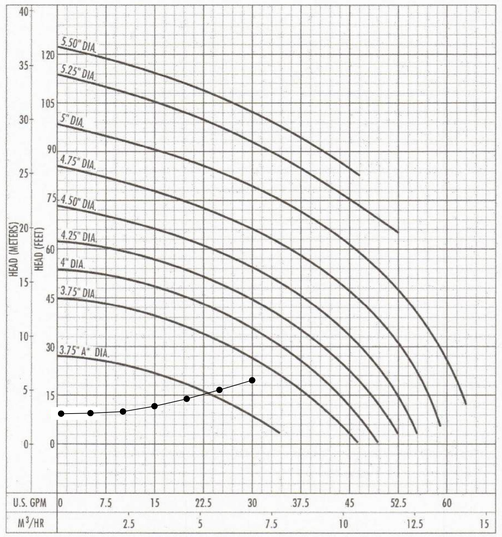
SITE DETAILS

C105C
Project No. 2024-317

D:\Related - WORK\Civil 3D Projects 2024\2024-317 PNFM\Dwg\2024-317 Site01D.dwg 3/28/2025 5:33:03 PM

Performance Curve – HPG200

RPM: **3450** DISCHARGE: **1-1/4"**



The curves reflect maximum performance characteristics without exceeding full load (Nameplate) horsepower. All pumps have a service factor of 1.2. Operation is recommended in the bounded area with operational point within the curve limit. Performance curves are based on actual tests with clear water at 70° F. and 1280 feet site elevation.

Conditions of Service:
GPM: 9 TDH: 10.19 FT.

PENTAIR HYDROMATIC®

Specifications – HPG200

SUBMERSIBLE SEWAGE GRINDER PUMPS

GENERAL

Contractor shall furnish all labor, materials, equipment and incidentals required to provide 2 (qty.) submersible centrifugal sewage grinder pump(s) as specified herein.

OPERATING CONDITIONS

Each pump shall be rated 2 hp,
produce 9 U.S. GPM at 10.19 feet TDH.

CONSTRUCTION

Each pump shall be of the sealed submersible grinder type, manufactured by Pentair Hydromatic. The pump volute, motor and seal housing shall be high quality gray cast iron, ASTM A-48, Class 30. All external mating parts shall be machined and Nitrile O-ring sealed on a beveled edge. Gaskets shall not be acceptable. All fasteners exposed to the pumped liquid shall be 316 series stainless steel.

ELECTRICAL POWER/CONTROL CORD

Electric power/control cord shall be SOOW water resistant 600V, 90°C, UL and/or CSA approved. The single cord shall incorporate both power and sensor leads and shall be a minimum of seven (7) 12 gauge conductors.

The pump shall be protected with compression fitting and epoxy potted area at the power cord entry to the pump. A separation between the junction box areas of the pump and the motor by a stator lead sealing gland or terminal board shall not be acceptable.

The power cable entry into the cord cap assembly shall first be made with a compression fitting. Each individual lead shall be stripped down to bare wire, at staggered intervals, and each strand shall be individually separated. This area of the cord cap shall then be filled with an epoxy compound potting which will prevent water contamination to gain entry even in the event of wicking or capillary attraction.

The power cord leads shall then be connected to the motor leads with heavy duty connectors having copper inserts with a crimped wire-to-wire connection, rather than a terminal board that allows for possible leaks.

The cord cap assembly shall be sealed with a Nitrile O-ring on a beveled edge to assure proper sealing.

MOTOR

The stator, rotor and bearings shall be mounted in a sealed submersible type housing. The stator windings shall have Class F insulation (155°C or 311°F) and a dielectric oil-filled motor, NEMA B design (three-phase), NEMA L design (single-phase). Because air-filled motors do not dissipate heat as efficiently as oil-filled motors, they shall not be acceptable.

The pump and motor shall be specifically designed so that they may be operated partially dry or completely submerged in the liquid being pumped. The pump shall not require cooling water jackets. Dependence upon, or use of, water jackets for supplemental cooling shall not be acceptable.

Stators shall be securely held in place with a removable end ring and threaded fasteners. No special tools shall be required for pump and motor disassembly.

Pump shall be equipped with heat sensors. The heat sensor(s) (one on single-phase, two on three-phase) shall be a low resistance, bimetal disc that is temperature sensitive. It (they) shall be mounted directly in the stator and sized to open at 120°C or 130°C and automatically reset at 30–35°C differential. The sensor shall be connected in series with the motor starter coil so that the starter is tripped if a heat sensor opens. The motor starter shall be equipped with overload heaters so all normal overloads are protected by an external heater block.

BEARINGS AND SHAFT

An upper single row ball radial bearing and a lower single row ball thrust bearing shall be provided. Bearings shall be permanently lubricated by the dielectric oil that fills the motor housing.

PENTAIR HYDROMATIC®

The shaft shall be machined from solid 400 series stainless steel and be designed with large diameters and minimum overhang to reduce shaft deflection and prolong bearing and seal life.

SEALS AND SENSORS

The rotor and stator in the motor housing shall be separated and protected from the pumped liquid by an oil-filled seal housing incorporating two type 21 carbon ceramic mechanical seals mounted in tandem. The seal housing shall be equipped with a moisture sensing probe installed between the seals, and the sensing of moisture in the seal chamber shall be automatic, continuous and not require the pump be stopped or removed from the wet well.

IMPELLER

The impeller shall be designed for rough duty service and shall be of a five-vane, semi-open design with hydrodynamic sealing vanes on the rear shroud. The impeller shall be constructed of engineered thermoplastic, with a permanently molded, hexagonally locked bronze insert. The impeller shall be of a non-overloading design and be factory or field trimable to meet specific performance conditions.

Optional all stainless steel impeller available.

GRINDER CUTTERS

The combination centrifugal pump impeller and grinder unit shall be attached to the common motor and pump shaft made of 416 stainless steel. The grinder unit shall be on the suction side of the pump impeller and discharge directly into the impeller inlet, leaving no exposed shaft to permit packing of ground solids. The grinder shall consist of two stages. The cutting action of the second stage shall be perpendicular to the plane of the first cut for better control of the particle size. The grinder shall be capable of grinding normal domestic sewage. Both stationary and rotating cutters shall be made of 440C stainless steel hardened to Rockwell 60C and ground to close tolerance.

The upper (axial) cutter and stationary cutter ring shall be reversible to provide new cutting edges to double life. The stationary cutter ring shall be pressed into the suction opening of the volute and held in place by three (3) 300 series stainless steel screws. The lower (radial) cutter shall macerate the solids against the I.D. of the cutter ring and extrude them through the slots of the cutter ring. The upper (axial) cutter shall cut off the extrusions, as they emerge from the slots of the cutter ring to eliminate any roping effect that may occur in single stage cutting action. The upper (axial) cutter shall fit over the hub of the impeller and the lower (radial) cutter shall be slip-fit and secured by means of peg and hole and rotate simultaneously with the rotation of the shaft and impeller. The grinding mechanism shall be locked to the shaft by a 300 series stainless steel countersunk washer in conjunction with a 300 series stainless steel flat head cap screw threaded into the end of the shaft.

TESTING

Commercial testing shall be required and include the following:

The pump shall be visually inspected to confirm that it is built in accordance with the specifications as to hp, voltage, phase and hertz.

The motor and seal housing chambers shall be hi-potted to test for moisture content and/or insulation defects.

Pump shall be allowed to run dry to check for proper rotation.

Discharge piping shall be attached, the pump submerged in water, and amp readings taken in each leg to check for an unbalanced stator winding. If there is a significant difference in readings, the stator windings shall be checked with a bridge to determine if an unbalanced resistance exists. If so, the stator will be replaced.

PAINT

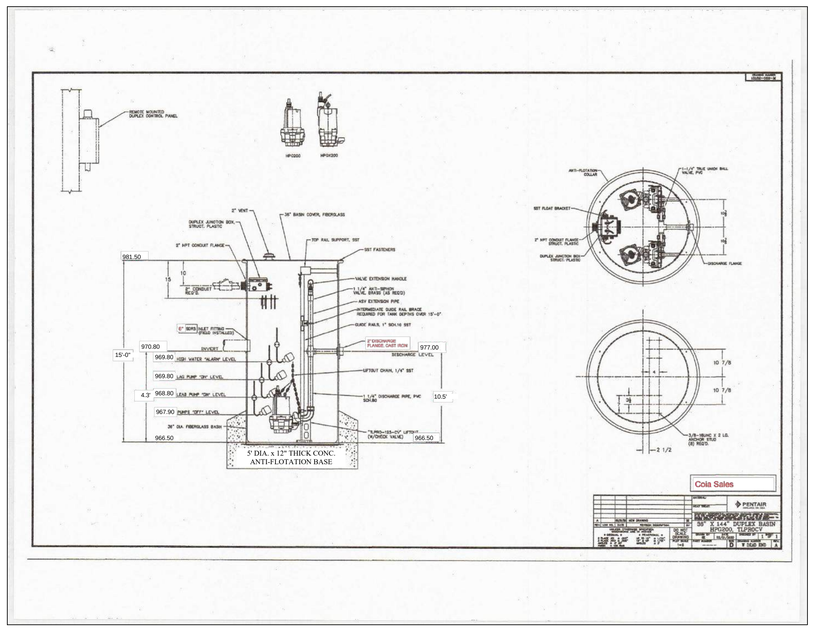
The pump shall be painted with waterborne hybrid acrylic/alkyd paint. This custom engineered, quick dry paint shall provide superior levels of corrosion and chemical protection.

PENTAIR HYDROMATIC®

LIFT STATION WET WELL SYSTEM:

HYDROMATIC HPG200 2 HP GRINDER PUMP
AS MANUFACTURED BY PENTAIR
TIM WEINGART
2246 PORT CENTRE DRIVE
MEDINA, OH 44256
330-630-0890
TWEINGART□ PUMPSYSTEMSLLC.COM

CONTRACTOR SHALL COORDINATE PUMP SYSTEM WITH MATERIAL SUPPLIER PRIOR TO ORDERING.



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MACEDONIA, OHIO

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02-21-2025
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03-28-2025

SITE DETAILS

C105D
Project No. 2024-317

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SITE BENCH MARK	SITE BENCH MARK
BENCH MARK #1 N.E. CORNER HEADWALL	BENCH MARK #3 TOP OF PIPE
ELEVATION = 1036.19	ELEVATION = 996.64
SITE BENCH MARK	**SITE BENCH MARK**
BENCH MARK #2 54" PIPE INV.	BENCH MARK #4 C.B. RIM
ELEVATION = 1000.44	ELEVATION = 999.78

ALL OFF-SITE BORROW OR SPOIL AREAS SHALL BE REQUIRED TO BE PERMITTED BY A SEPARATE NOI AND RELATED SWP3.

THIS PROJECT WILL HAVE NO OFF-SITE BORROW OR SPOIL AREAS. ALL MATERIALS WILL BE CONTAINED WITHIN THE SITE.

LEGEND

ITALICS TEXT REPRESENTS EXISTING CONDITION

NON-ITALICS TEXT REPRESENTS PROPOSED CONDITION

FLOOD ZONE

FLOOD ZONE "X" PER FLOOD INSURANCE
RATE MAP NUMBER 39153C0061E
EFFECTIVE DATE JULY 20, 2009

SWP3 AMENDMENT ACTIVITIES

GRADING DATE

SITE STABILIZATION DATE

SWP3 AMENDMENT DATE

SWP3 RESPONSIBLE PARTY

GEIS CONSTRUCTION
JEN DIASIO
10020 AURORA HUDSON RD.
STREETSBORO, OHIO 44241
216-218-3507

ESTIMATED CONSTRUCTION DATES

START DATE 05-01-2025
END DATE 05-01-2026

SWP3 PREPARED

03/16/2025

TAG	HATCH/SYMBOL	SWP3 BMP
CL LC	LC 28.70 Ac. LC	CLEARING LIMITS, LIMITS OF CONSTRUCTION
TCE		TEMPORARY CONSTRUCTION ENTRANCE
CTW VF TW DMP		CEMENT TRUCK WASHOUT, VEHICLE FUELING, TOXIC WASTE AND DUMPSTER LOCATION
IP		INLET PROTECTION (SEE DETAIL ON SHT. C109)
IPSS		INLET SILT SACK PROTECTION (SEE DETAIL ON SHT. C109)

TAG	LINE	SWP3 BMP
SF	SF	SILT FENCE
CFS		12" COMPOST FILTER SOCK MAY BE SUBSTITUTED FOR SILT FENCE AT CONTRACTORS DISCRETION
OP		OUTLET PROTECTION
TDC	TDC	TEMPORARY DIVERSION CHANNEL
TCD		TEMPORARY CHECK DAM

OHIO EPA FACILITY PERMIT NUMBER: 3GC13024□AG

PROPOSED STORM WATER MANAGEMENT BASINS MUST BE CONSTRUCTED AS THE FIRST STEP IN THE SEQUENCE OF CONSTRUCTION.

ALL UTILITY LINE EXTENSIONS OR GRADING-ONLY AREAS SHALL BE IMMEDIATELY STABILIZED.

OUTSIDE SLOPE OF BASIN(S) TO BE BROUGHT TO FINAL GRADE IMMEDIATELY AFTER CONSTRUCTION AND STABILIZATION WITH PERMANENT VEGETATION.

DUTY TO INFORM CONTRACTORS & SUBCONTRACTORS

THE PERMITTEE SHALL INFORM ALL CONTRACTORS AND SUBCONTRACTORS NOT OTHERWISE DEFINED AS "OPERATORS" IN PART VII OF THE GENERAL PERMIT WHO WILL BE INVOLVED IN THE IMPLEMENTATION OF THE SWP3 OF THE TERMS AND CONDITIONS OF THE PERMIT,THE PERMITTEE SHALL MAINTAIN A WRITTEN DOCUMENT CONTAINING THE SIGNATURES OF ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED IN THE IMPLEMENTATION OF THE SWP3 AS PROOF ACKNOWLEDGING THAT THEY REVIEWED AND UNDERSTAND THE CONDITIONS AND RESPONSIBILITIES OF THE SWP3. THE WRITTEN DOCUMENT SHALL BE CREATED, AND SIGNATURES SHALL BE OBTAINED PRIOR TO COMMENCEMENT OF EARTH DISTURBING ACTIVITY ON THE CONSTRUCTION SITE.

SWPPP CERTIFICATION

"I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

M 09

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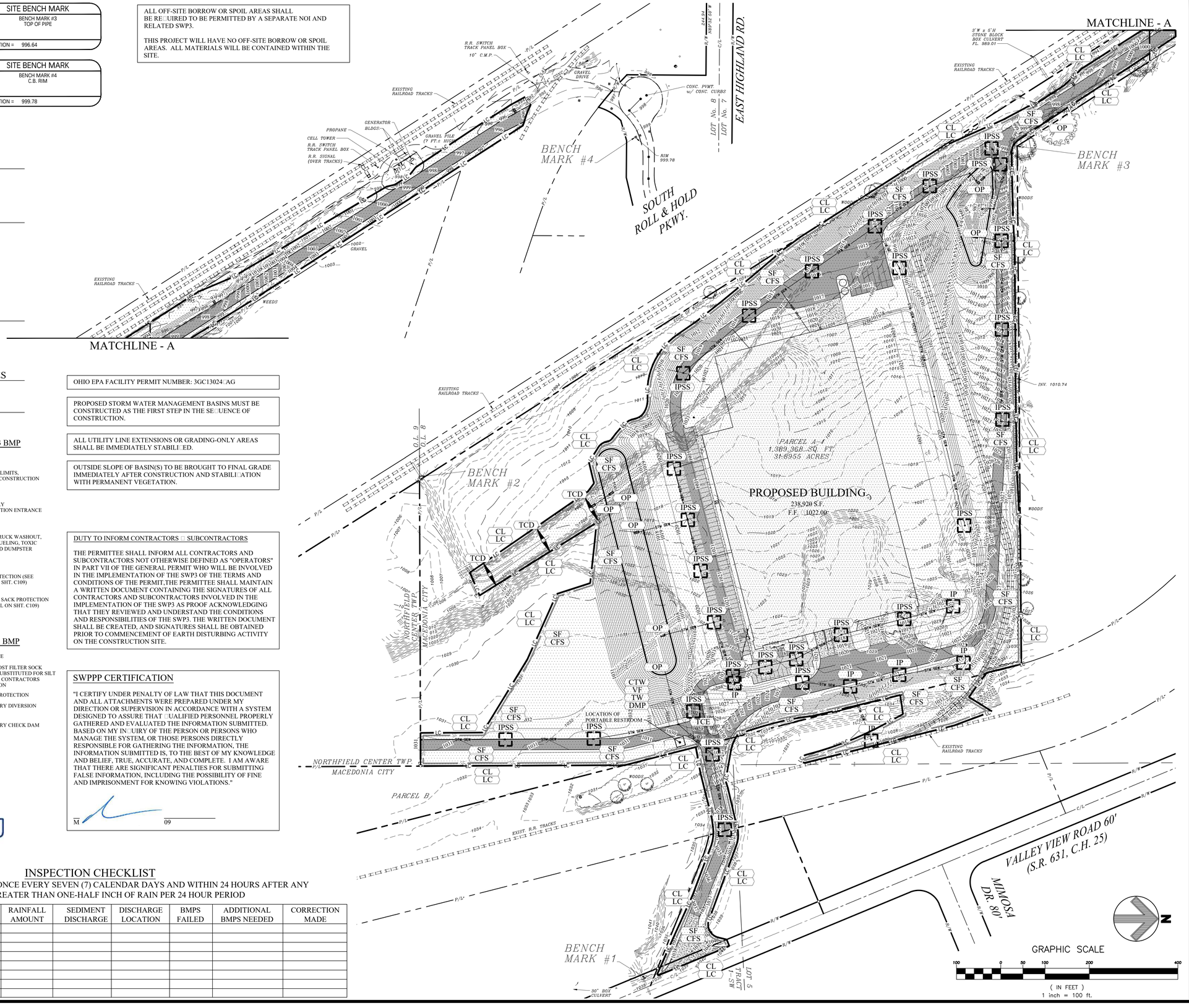

INSPECTION CHECKLIST

INSPECTIONS SHALL BE MADE ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVEN GREATER THAN ONE-HALF INCH OF RAIN PER 24 HOUR PERIOD

DATE	INSPECTOR	WEATHER CONDITIONS	RAINFALL AMOUNT	SEDIMENT DISCHARGE	DISCHARGE LOCATION	BMPS FAILED	ADDITIONAL BMPS NEEDED	CORRECTION MADE

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SWP3 PLAN

C106
Project No. 2024-317

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2015

2017

2019

10-YR AVERAGE PRE-DEVELOPED LAND COVER

YEAR RANGE	IMPERVIOUS AREA WITHIN DRAINAGE AREA
2015 - 2016:	15.56 AC.
2017 - 2018:	16.82 AC.
2019 - 2024:	19.89 AC.

WEIGHTED AVERAGE □(2/10)(15.56 AC.) + (2/10)(16.82 AC.) + (6/10)(19.89 AC.) □18.41 AC. IMPERVIOUS

N

GRAPHIC SCALE

300 0 150 300 600

(IN FEET)
1 inch = 300 ft.

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SWP3 DETAILS

C107
Project No. 2024-317

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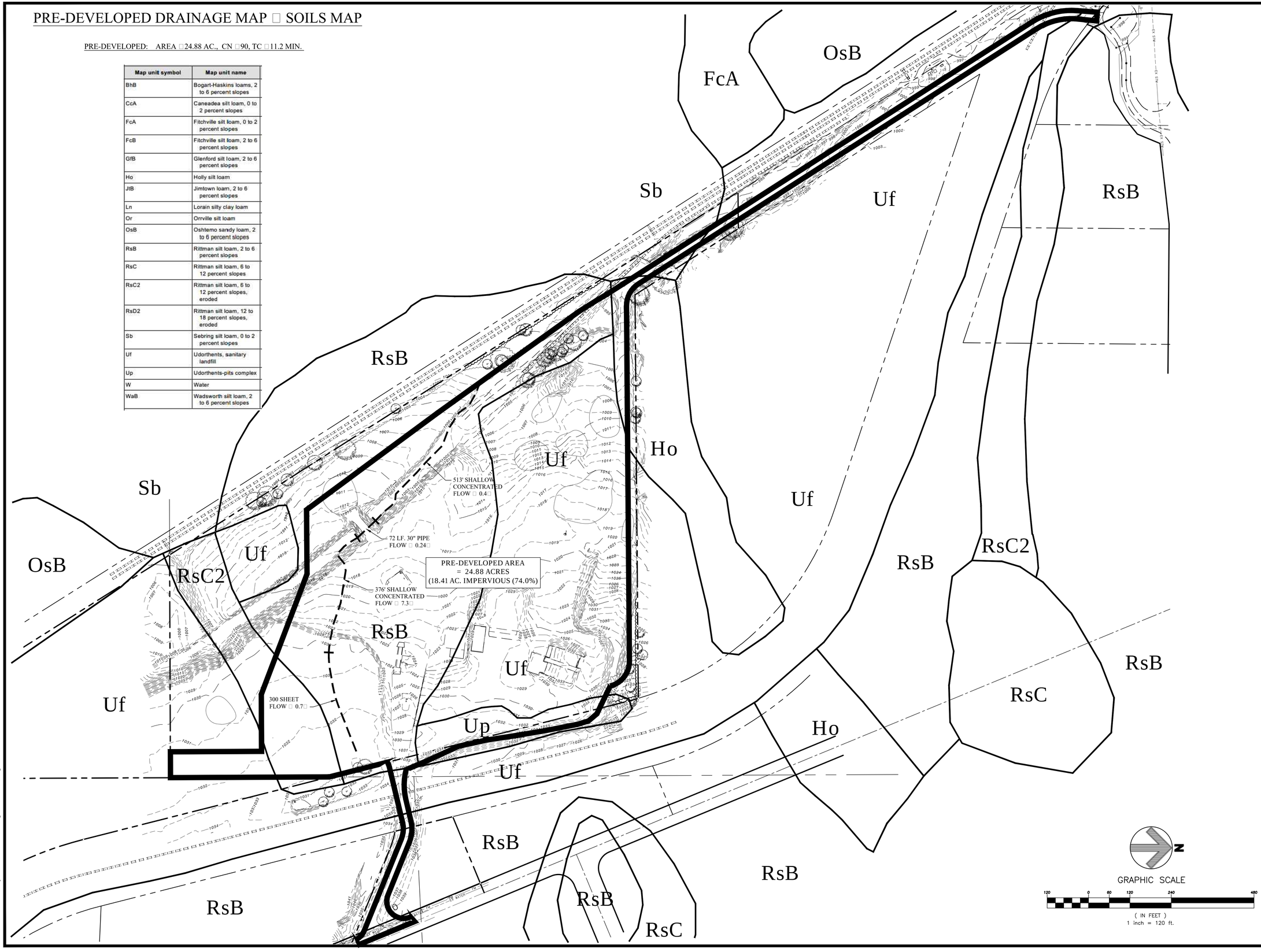
PRE-DEVELOPED DRAINAGE MAP □ SOILS MAP

PRE-DEVELOPED: AREA □24.88 AC., CN □90, TC □11.2 MIN.

Map unit symbol	Map unit name
BhB	Bogart-Haskins loams, 2 to 6 percent slopes
CcA	Caneadea silt loam, 0 to 2 percent slopes
FcA	Fitchville silt loam, 0 to 2 percent slopes
FcB	Fitchville silt loam, 2 to 6 percent slopes
GfB	Glenford silt loam, 2 to 6 percent slopes
Ho	Holly silt loam
JtB	Jimtown loam, 2 to 6 percent slopes
Ln	Lorain silty clay loam
Or	Orrville silt loam
OsB	Oshtemo sandy loam, 2 to 6 percent slopes
RsB	Rittman silt loam, 2 to 6 percent slopes
RsC	Rittman silt loam, 6 to 12 percent slopes
RsC2	Rittman silt loam, 6 to 12 percent slopes, eroded
RsD2	Rittman silt loam, 12 to 18 percent slopes, eroded
Sb	Sebring silt loam, 0 to 2 percent slopes
Uf	Udorthents, sanitary landfill
Up	Udorthents-pits complex
W	Water
WaB	Wadsworth silt loam, 2 to 6 percent slopes



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SWP3 DETAILS

C107A
Project No. 2024-317

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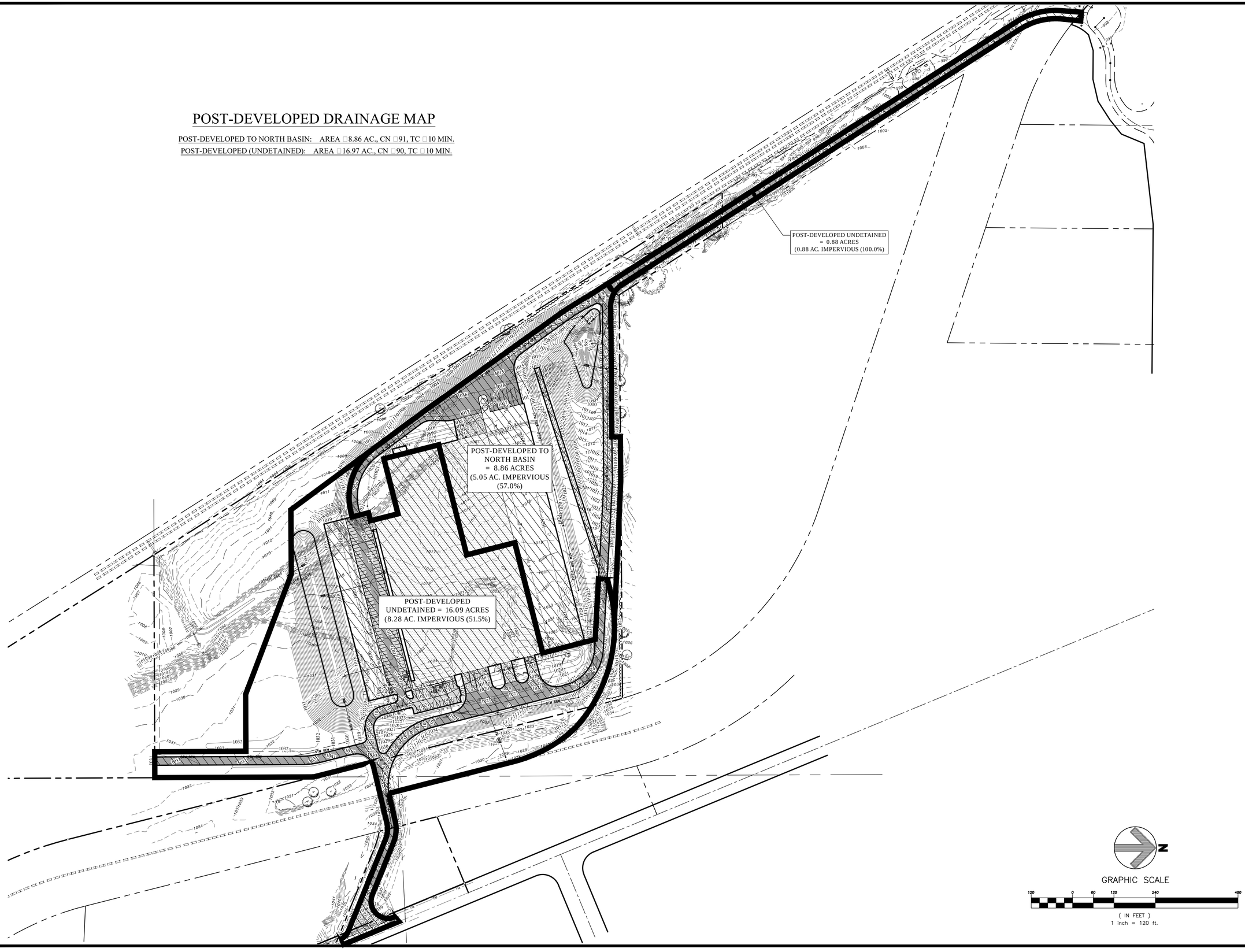
POST-DEVELOPED DRAINAGE MAP

POST-DEVELOPED TO NORTH BASIN: AREA = 8.86 AC., CN = 91, TC = 10 MIN.
POST-DEVELOPED (UNDETAINED): AREA = 16.97 AC., CN = 90, TC = 10 MIN.



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SWP3
DETAILS

C107B
Project No. 2024-317

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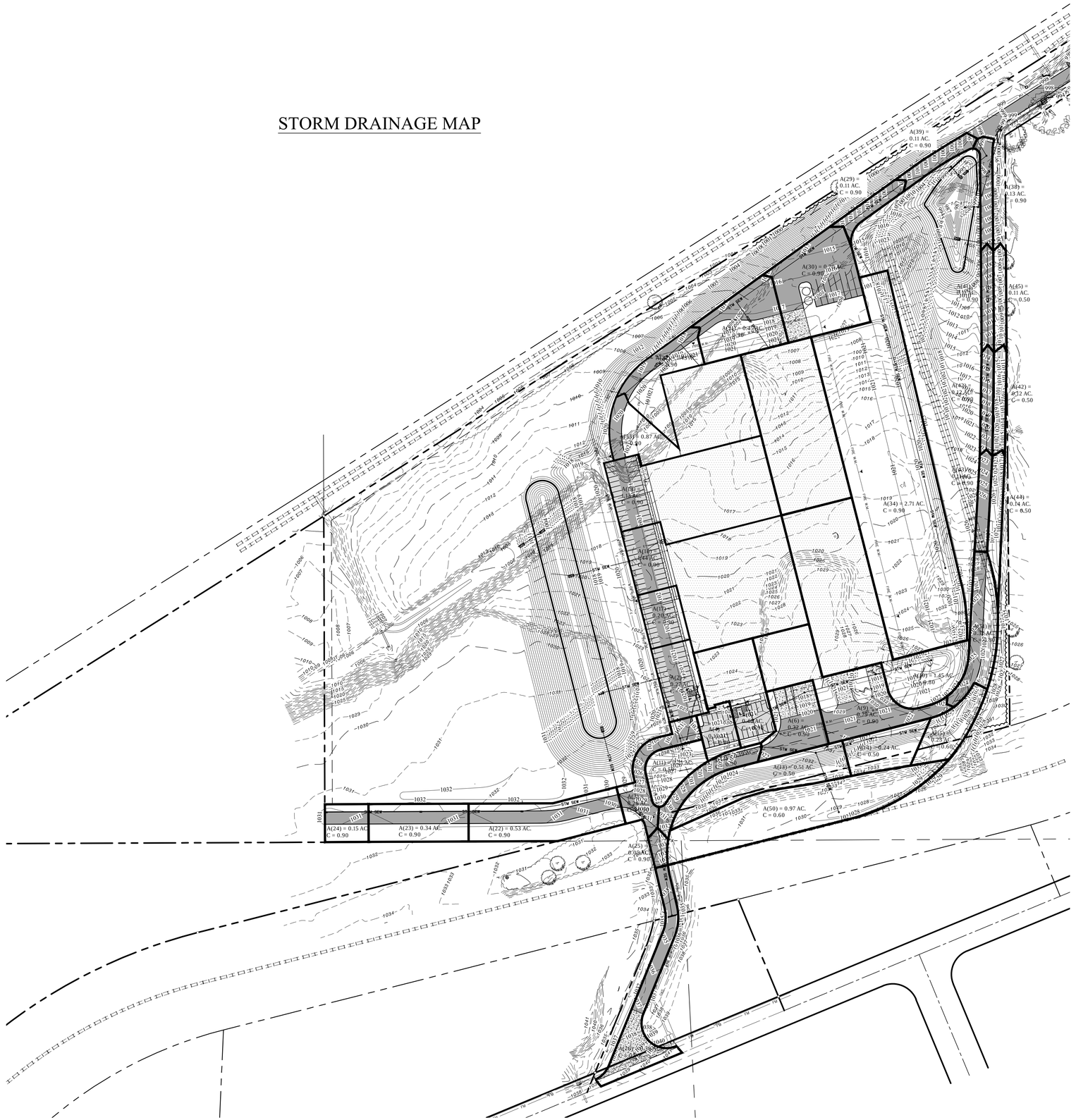
STORM DRAINAGE MAP



STORM SEWER CALCULATIONS (10-YR)

Storm Sewer Tabulation

Page 1

Station Line	To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
1	End	128.992	0.01	1.46	0.61	0.00	1.31	10.0	15.9	4.0	5.19	14.37	4.78	15	6.59	1013.00	1021.50	1014.25	1022.42	1016.34	1032.00	ST-19
2	1	102.720	0.05	0.43	0.90	0.05	0.39	10.0	11.3	4.7	1.81	7.76	3.56	12	6.33	1021.75	1028.25	1022.42	1028.82	1032.00	1034.00	ST-23
3	2	173.990	0.38	0.38	0.90	0.34	0.34	10.0	10.0	4.9	1.69	3.10	3.72	12	1.01	1028.25	1030.00	1028.82	1030.55	1034.00	1034.00	ST-24
4	1	194.881	0.53	1.02	0.90	0.48	0.92	10.0	14.9	4.1	3.76	4.30	3.93	15	0.59	1021.50	1022.65	1022.42	1023.55	1032.00	1039.00	ST-20
5	4	200.323	0.34	0.49	0.90	0.31	0.44	10.0	13.7	4.3	1.89	2.29	3.25	12	0.55	1022.90	1024.00	1023.60	1024.69	1039.00	1033.00	ST-21
6	5	187.492	0.15	0.15	0.90	0.14	0.14	10.0	10.0	4.9	0.67	2.25	1.94	12	0.53	1024.00	1025.00	1024.72	1025.35	1039.00	1039.00	ST-22
7	End	114.500	0.27	6.37	0.90	0.24	4.81	10.0	14.0	4.2	20.38	41.84	3.09	36	0.52	1008.00	1008.60	1011.00	1011.11	1016.60	1023.00	ST-1
8	7	125.841	0.26	6.10	0.90	0.23	4.57	10.0	13.5	4.3	19.71	25.55	4.74	30	0.52	1009.10	1009.75	1011.27	1011.58	1020.00	1023.00	ST-2
9	8	76.910	0.15	5.63	0.90	0.14	4.23	10.0	13.1	4.4	18.47	25.63	4.21	30	0.52	1009.75	1010.15	1011.99	1012.13	1020.00	1023.65	ST-3
10	9	72.311	0.45	5.48	0.90	0.41	4.10	10.0	12.8	4.4	18.09	24.73	4.47	30	0.48	1010.15	1010.50	1012.18	1012.33	1020.60	1020.60	ST-4
11	10	55.521	0.19	2.46	0.90	0.17	1.52	10.0	12.6	4.5	6.78	9.85	5.69	18	1.17	1014.45	1015.10	1015.37	1016.11	1020.60	1021.75	ST-11
12	11	109.605	0.51	2.27	0.90	0.26	1.35	10.0	12.1	4.5	5.14	9.32	5.01	18	1.05	1015.10	1016.25	1016.11	1017.21	1021.75	1021.00	ST-12
13	12	126.488	0.57	0.57	0.60	0.58	0.58	10.0	10.0	4.9	2.87	6.66	6.49	12	4.94	1016.75	1023.00	1017.21	1023.73	1021.00	1027.00	ST-15
14	12	113.569	0.24	0.79	0.50	0.12	0.51	10.0	11.4	4.7	2.39	2.67	3.04	12	0.75	1016.75	1017.60	1017.49	1018.34	1021.00	1021.00	ST-13
15	14	149.880	0.23	0.55	0.60	0.14	0.39	10.0	10.4	4.8	1.91	2.65	3.44	12	0.73	1017.60	1018.70	1018.37	1019.29	1021.00	1024.00	ST-14
16	15	41.504	0.32	0.32	0.80	0.26	0.26	10.0	10.0	4.9	1.26	2.62	2.23	12	0.72	1018.70	1019.00	1019.53	1019.59	1024.00	1023.00	ST-43
17	8	21.446	0.21	0.21	0.50	0.11	0.11	10.0	10.0	4.9	0.52	3.33	2.89	12	1.17	1015.75	1016.00	1016.02	1016.30	1020.00	1020.00	ST-10
18	10	115.368	0.32	2.56	0.90	0.29	2.16	10.0	11.9	4.6	9.88	14.14	3.97	24	0.52	1011.00	1011.60	1012.67	1012.94	1020.60	1017.55	ST-5
19	18	145.624	0.79	2.24	0.90	0.71	1.87	10.0	11.0	4.7	8.85	14.53	4.39	24	0.55	1011.60	1012.40	1013.02	1013.46	1017.55	1017.55	ST-6
20	19	113.535	1.45	1.45	0.80	1.16	1.16	10.0	10.0	4.9	5.73	14.25	3.79	24	0.53	1012.40	1013.00	1013.55	1013.86	1017.55	1017.50	ST-9
21	End	22.187	0.01	6.28	0.61	0.00	5.84	10.0	13.3	4.3	24.47	29.43	8.10	24	2.25	994.50	995.00	996.50	998.75	1001.58	1000.00	ST-25
22	21	94.604	0.11	6.27	0.90	0.10	5.64	10.0	13.1	4.4	24.65	51.38	8.46	24	6.87	995.00	1001.50	996.75	1003.25	1000.00	1006.50	ST-26

Project File: 2024-317 Storm 01B.stm | Number of lines: 39 | Run Date: 3/28/2025

NOTES:Intensity = 48.57 / (Inlet time + 8.50) ^ 0.78; Return period =Yrs. 10 ; c = cir e = ellip b = box

Storm Sewers v2022.00

Storm Sewer Tabulation

Page 2

Station Line	To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
23	22	153.080	0.70	6.16	0.90	0.63	5.54	10.0	12.8	4.4	24.51	43.39	8.41	24	4.90	1001.50	1009.00	1003.25	1010.78	1006.50	1014.00	ST-27
24	23	109.122	2.71	2.71	0.90	2.44	2.44	10.0	10.0	4.9	12.04	15.09	7.50	18	2.75	1009.50	1012.50	1010.75	1013.82	1014.00	1016.60	ST-31
25	23	174.285	0.45	2.75	0.90	0.41	2.46	10.0	12.0	4.6	11.28	19.64	4.79	24	1.00	1009.00	1010.75	1010.75	1011.95	1014.00	1015.75	ST-28
26	25	174.285	1.43	2.30	0.90	1.29	2.07	10.0	11.0	4.7	9.79	19.64	5.19	24	1.00	1010.75	1012.50	1011.95	1013.62	1015.75	1017.50	ST-29
27	26	197.877	0.87	0.87	0.90	0.78	0.78	10.0	10.0	4.9	3.87	5.63	4.82	15	1.01	1013.25	1015.25	1014.01	1016.04	1017.50	1019.50	ST-30
28	End	114.500	1.44	2.77	0.90	1.30	2.49	10.0	14.0	4.2	10.57	21.35	6.35	18	5.50	1008.00	1014.30	1010.00	1015.55	1018.98	1020.00	ST-16
29	28	120.000	1.13	1.13	0.90	1.02	1.02	10.0	10.0	4.9	5.02	9.10	3.99	18	1.00	1014.30	1015.50	1015.55	1016.36	1020.00	1020.00	ST-18
30	28	120.000	0.20	0.20	0.90	0.18	0.18	10.0	10.0	4.9	0.89	9.10	1.70	18	1.00	1014.30	1015.50	1015.55	1015.85	1020.00	1020.00	ST-17
31	End	55.745	0.11	0.71	0.90	0.10	0.49	10.0	16.1	3.9	1.94	9.61	3.23	12	9.88	994.50	999.50	995.50	1000.46	1000.55	1004.10	ST-36
32	31	200.728	0.12	0.49	0.90	0.11	0.34	10.0	14.5	4.2	1.40	5.38	3.23	12	3.04	999.90	1006.00	1000.49	1006.50	1004.10	1012.90	ST-37
33	32	207.483	0.11	0.25	0.90	0.10	0.17	10.0	11.2	4.7	0.80	5.03	2.50	12	2.65	1006.00	1011.50	1006.50	1011.87	1012.90	1022.00	ST-38
34	33	31.910	0.14	0.14	0.50	0.07	0.07	10.0	10.0	4.9	0.35	3.92	1.82	12	1.61	1011.50	1012.00	1011.87	1012.24	1022.03	1015.50	ST-39
35	32	31.468	0.12	0.12	0.50	0.06	0.06	10.0	10.0	4.9	0.30	3.89	1.59	12	1.59	1006.00	1006.50	1006.50	1006.72	1012.90	1010.10	ST-44
36	31	26.754	0.11	0.11	0.50	0.06	0.06	10.0	10.0	4.9	0.27	4.22	1.38	12	1.87	999.90	1000.40	1000.49	1000.61	1004.10	1004.40	ST-42
37	End	40.472	16.09	16.09	0.80	12.87	12.87	10.0	10.0	4.9	63.55	90.86	9.44	36	2.47	1007.60	1008.00	1010.00	1010.56	1010.60	1011.60	ST-7
38	End	48.528	0.13	0.24	0.90	0.12	0.22	10.0	11.0	4.7	1.02	2.22	1.41	12	0.52	994.50	994.75	995.50	995.55	997.55	997.50	ST-34
39	38	39.009	0.11	0.11	0.90	0.10	0.10	10.0	10.0	4.9	0.49	2.47	0.89	12	0.64	994.75	995.00	995.58	995.59	997.50	998.50	ST-35

Project File: 2024-317 Storm 01B.stm | Number of lines: 39 | Run Date: 3/28/2025

NOTES:Intensity = 48.57 / (Inlet time + 8.50) ^ 0.78; Return period =Yrs. 10 ; c = cir e = ellip b = box

Storm Sewers v2022.00

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PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

Issue Date
02-21-2025
03-17-2025
03-28-2025

SWP3 DETAILS

C107C
Project No. 2024-317

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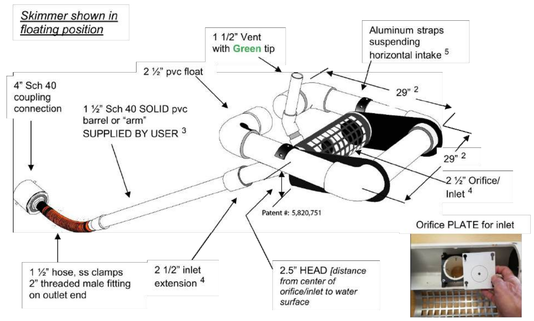
Sediment Basin Data

Basin Number				
A. Total Contributing Watershed (ac.)	8.86			
B. Disturbed Area (ac.)	9.30			
C. Req. Dewatering Volume (A x 1,800 cu. ft./ac.)	15,948			
D. Req. Sediment Storage Zone Vol. (B* 1000)	9,300			
E. Total Required Capacity (C+D in cu ft)	25,248			
F. Dewatering Volume Provided (cu. ft./ac.)	18,242			
G. Sediment Storage Provided (cu. ft./ac.)	20,789			
H. Total Storage Provided in Crest of Riser (cu. ft./ac.)	39,031			
Principal Spillway				
Req. Principal Spillway Capacity (10 yr-24hr storm) (cfs)	33.54			
Principal Spillway Capacity Provided (cfs)	155.38			
Principal Spillway Elevation	996.90			
Riser (inches)	48" SQ			
Diameter of Barrel (inches)	36"			
Volume of Concrete to Prevent Riser Flotation (cu. ft.)	38			
Outlet Type				
Drawdown Time (Hours must exceed 48 hr drawdown)	72			
Mark selected outlet type (X)				
A. Non-perforated Riser with Stub & Faircloth Skimmer	X			
(Orifice size in inches)	2.3			
Stone pad provided at top of Sediment storage	X			
B. Protected Single Orifice				
(Orifice size in inches)				
C. Perforated Riser				
Hole size (inches)				
Number of Holes				
Protection of Perforations - smholes (<3/4") typ need anti-clogging				
measure - aggregate > than hole size or wire cloth/fence & geotextile				
Bottom Elevation	987.00			
Sediment Storage Zone Elevation	994.50			
Crest of Principal Spillway Elevation (Min. 1 ft. below crest E.S.)	996.90			
Pool Depth at Riser (ft., ideally 3-5')	9.90			
Top of Embankment Elevation	999.50			
Embankment Side Slopes (Max 2:1, combined 5:1)	4:1-2:1			
Embankment Top Width (ft.)	10			
Req. Emergency Spillway Capacity (25 yr-24hr storm) (cfs)	41.90			
Req. Emergency Spillway Discharge (25 yr-24 hr storm less Principal S.)	-113.48			
Emergency Spillway Capacity Provided (cfs)	84.00			
Emergency Spillway Elevation	998.50			
Emergency Spillway Bottom Width	30.00			
Emergency Spillway Lining	Vegetative			
Rock Outlet Protection (Size, gradation and quality of rock)				
Length	10.00			
Width	5.00			
Depth	1.50			
Gradation - O.D.O.T. unless specified otherwise	C			

2½" Faircloth Skimmer® Cut Sheet

www.FairclothSkimmer.com



1. Skimmer can be attached to a straight 4" sch 40 pipe but the pipe may need to be anchored to the bottom at the connection so it is secure. Coupling can be removed and hose attached to outlet using the threaded 2" fitting.
2. Dimensions are approximate, not intended as plans for construction.
3. Barrel (solid, not foam core pipe) should be 1.4 times the depth of water with a minimum length of 6' so the inlet can be pulled to the side for maintenance. If more than 8' long weight may have to be added to inlet to counter the increased buoyancy.
4. Orifice/inlet tapers down from 2 ½" maximum inlet to a 1½" barrel and hose. Barrel is smaller to reduce buoyancy and tendency to lift inlet but is sufficient for flow through inlet because of slope. The orifice/inlet can be reduced using the plate and cutter provided to control the outflow rate – see #6.
5. Horizontal intake is 5" pipe between the straps with aluminum screen door for access to the 2½" inlet and orifice inside.
6. **Capacity**: 6,234 cubic feet per day maximum with 2½" inlet and 2.5 head. Inlet can be reduced by installing a smaller orifice using the plate and cutter provided to adjust flow rate for the particular drawdown time required. Please use the sizing template at www.faircloth skimmer.com .
7. Ships assembled. User glues inlet extension and barrel, installs vent, cuts orifice in plate and attaches to outlet pipe or structure. Includes float, flexible hose, rope, and orifice plate and cutter. Does **NOT** include 1 ½" Sch 40 SOLID pvc barrel or "arm" SUPPLIED BY USER.

TEMPORARY SEDIMENT CONTROL CALCULATIONS

Use a Temporary Skimmer

Total Drainage Area:	8.86 Ac.
Disturbed Earth Area:	9.30 Ac.
Sediment Storage Volume Required (1,000 C.F./Ac.):	9,300 C.F.
Sediment Storage Volume Provided Below Skimmer Orifice:	20,789 C.F.
Dewatering Volume Required (1,800 C.F./Ac.)	15,948 C.F.
Dewatering Volume Provided Below Principal Spillway:	18,242 C.F.
Design Detention Volume:	50,308 C.F.
Bottom of Temporary Sediment Basin:	987.00
Invert of Skimmer device:	994.50
Normal Water Level:	994.50
Cleanout Elevation:	990.00
Set Crest of Principal Spillway at:	996.90
Set Crest of Emergency Spillway at:	998.50
Top of Bank:	999.50

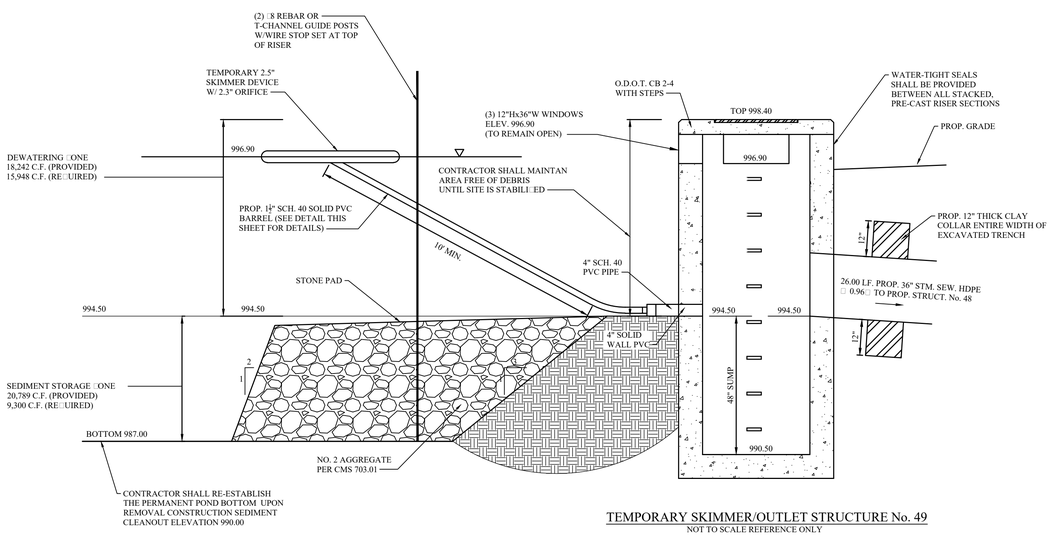
TEMPORARY SEDIMENT CONTROL VOLUME CALCULATIONS

Retention Pond Information

	Elevation	Area, S.F.	Volume (C.F.)	Volume Sum (C.F.)		
					56.29	100-yr Peak Flow, C.F.S.
					1.00	Spillway Height, Ft.
BOT	987.00	971	0	0	30.00	Spillway Width, Ft.
	988.00	1,331	1,151	1,151		
	989.00	1,755	1,543	2,694		
	990.00	2,234	1,994	4,688		
	991.00	2,767	2,500	7,189		
	992.00	3,355	3,061	10,250		
	993.00	3,997	3,676	13,926		
	994.00	4,689	4,343	18,269		
DEW	994.50	5,392	2,520	20,789		
	995.00	6,233	2,906	23,695		
	996.00	7,981	7,107	30,802		
	997.00	9,903	8,942	39,744		
	998.00	11,889	10,896	50,640		
	999.00	13,975	12,932	63,571		
TB	999.50	15,056	7,258	70,829		

TEMPORARY SKIMMER DEVICE

Calculate Skimmer Size					
Basin Volume in Cubic Feet	15,948	Cu.Ft	**Skimmer Size**	**2.5**	Inch
Days to Drain*	3	Days	Orifice Radius	**1.2**	Inch[es]
			Orifice Diameter	**2.3**	Inch[es]
*In NC assume 3 days to drain					



TEMPORARY SKIMMER/OUTLET STRUCTURE No. 49

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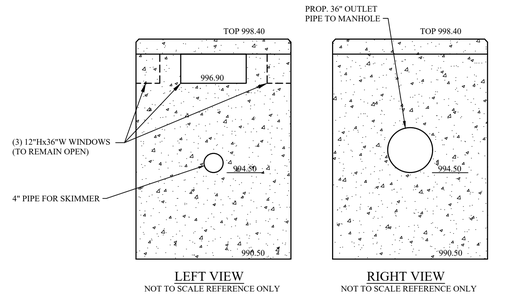

LEFT VIEW

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RIGHT VIEW

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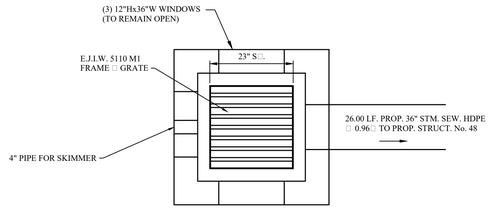

TOP VIEW

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SITE DEVELOPMENT
MACEDONIA, OHIO

Issue Date
02-21-2025
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SWP3 DETAILS

C108

Project No. 2024-317

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Project and Watershed Information; WQv Calculation

version 3.2 2020-07-07

Project Details

Project Name:	PNFM
Project Location:	Macedonia, OH
Project Latitude:	41.293645
Project Longitude:	-81.491422
NPDES Permit Applicant:	
Submitted by:	MLW
Date:	3/28/2025

Subwatershed Details

Subwatershed ID/Label:	New Basin			
Subwatershed Drainage Area, A_{total} =	8.86	acres	=	385,942 ft^2
Subwatershed Impervious Area, A_{imp} =	5.05	acres	=	219,978 ft^2
Imperviousness fraction, i =	0.57		=	57 %
Volumetric Runoff Coefficient, Rv =	0.56			
Water Quality Volume, WQv =	16,296	ft^3	=	0.374 ac-ft

Wet Extended Detention Basin WQv Compliance Tool

version 3.2 2020-07-07

Project Summary

Project Name:	PNFM			
Subwatershed ID/Label:	New Basin			
Submitted by:	MLW			
Date:	3/28/2025			
Subwatershed Drainage Area, A_{total} =	8.86	acres	=	385,942 ft2
Subwatershed Impervious Area, A_{imp} =	5.05	acres	=	219,978 ft2
Imperviousness fraction, i =	0.57			57 %
Water Quality Volume, WQv =	16,296	ft^3	=	0.37 ac-ft

Step 1 - Soil Suitability

Soil Series	Udorthents	HSG	D

Step 2 - Wet ED Basin Volume Requirements

Extended Detention Volume, EDv =	16296	ft^3
Minimum Sediment Storage Volume, $V_{sediment}$ =	3259	ft^3
Minimum Permanent Pool Volume, PPv =	19555	ft^3

Step 3 - Basin Stage-Storage Relationship

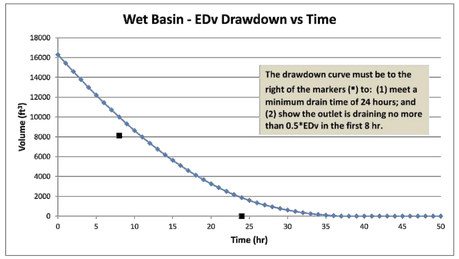
	Elevation ft	Area ft^2	Incremental Volume ft^3	Cumulative Volume ft^3
Bottom of Permanent Micropool =	987.00	971		
	988.00	1331	1,146	1,146
	989.00	1755	1,538	2,684
	990.00	2234	1,990	4,674
	991.00	2767	2,496	7,170
	992.00	3355	3,056	10,226
	993.00	3997	3,671	13,897
	994.00	4689	4,338	18,236
	994.50	5392	2,518	20,754
	995.00	6233	2,904	23,658
	996.00	7981	7,089	30,747
	997.00	9903	8,925	39,672
	998.00	11889	10,881	50,552
	999.00	13975	12,918	63,470
	999.50	15056	7,256	70,726

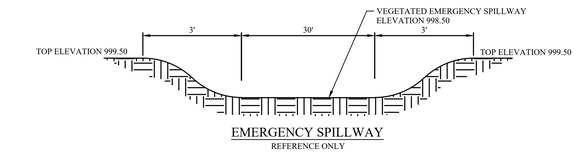
Step 4 - Outlet Elevations and Storage Volumes

WQ Orifice Invert Elevation =	994.50		
Elevation of Top of EDv =	996.73		
Secondary Outlet Invert Elevation =	996.90		OKAY
WQ Treatment Volume Provided, $V_{treatment}$ =	17,937	ft^3	
Treatment Vol Provided Relative to EDv, $V_{treatment}$/EDv =	1.10	=	110% OKAY
Permanent Pool Volume Provided, PPv =	20,754	ft^3	
Ratio PPv Provided to PPv Required =	1.06	=	106% OKAY

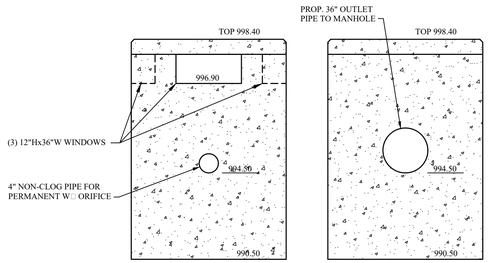
Step 5 - Outlet (Orifice) Sizing

Maximum Hydraulic Head, Hmax =	2.23	ft		
Orifice Coefficient, C =	0.6			
Target (Minimum) Draw-down Time, T_d =	24	hr		
Target Average Discharge, Q_{avg} =	0.19	cfs		
Average Hydraulic Head, H_{avg} =	1.12	ft		
Estimated Orifice Area, $A_{orifice}$ =	5.34	in^2	=	0.037 ft^2
Estimated Orifice Diameter, $D_{orifice}$ =	2.61	in	=	0.22 ft
Design Orifice Diameter, $D_{orifice}$ =	2.50	in	=	0.21 ft
Design Orifice Area, $A_{orifice}$ =	4.88	in^2	=	0.034 ft^2
Time to Completely Drain EDv, T_d =	37	hr	must be ≥ 24 hr	OKAY
Volume Drained in First 8 hr =	6,288	ft^3		
% of EDv =	38.6	%	must be ≤ 50%	OKAY





EMERGENCY SPILLWAY
REFERENCE ONLY



LEFT VIEW
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RIGHT VIEW
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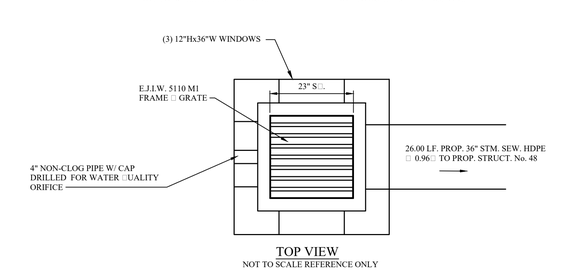

TOP VIEW
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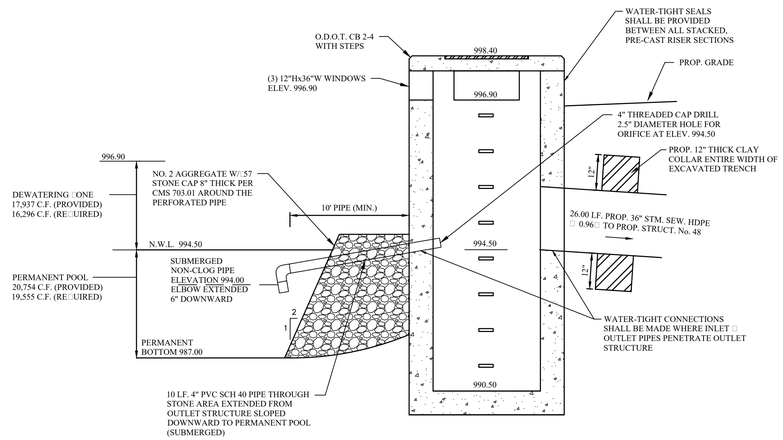

PERMANENT OUTLET STRUCTURE No. 49
NON-CLOG FIGURE 2.6.3 OF OHIO RAINWATER AND LAND DEVELOPMENT MANUAL
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PEAK NANO FILM MANUFACTURING

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PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

Issue Date
02-21-2025
03-17-2025
03-28-2025

SWP3 DETAILS

C109
Project No. 2024-317

1. Construction personnel, including subcontractors who may use or handle hazardous or toxic materials. shall be made aware of the following general guidelines regarding disposal and handling of hazardous and construction wastes:
    - Prevent spills
    - Use products up
    - Follow label directions for disposal
    - Remove lids from empty bottles and cans when disposing in trash
    - Recycle wastes whenever possible
    - Don't pour into waterways, storm drains or onto the ground
    - Don't pour down the sink, floor drain or septic tanks
    - Don't bury chemicals or containers
    - Don't bum chemicals or containers
    - Don't mix chemicals together

2. **Containers shall be provided for the proper collection of all waste material including construction debris, trash, petroleum products and any hazardous materials used on-site.** Containers shall be covered and not leaking. All waste material shall be disposed of at facilities approved for that material. Construction Demolition and Debris (CD□D) waste must be disposed of at an Ohio EPA approved CD□D landfill.

3. **No construction related waste materials are to be buried on-site.** By exception, clean fill (bricks, hardened concrete, soil) may be utilized in a way which does not encroach upon natural wetlands, streams or floodplains or result in the contamination of waters of the state.

4. **Handling Construction Chemicals.** Mixing. pumping. transferring or other handling of construction chemicals such as fertilizer. lime. asphalt. concrete drying compounds. and all other potentially hazardous materials shall be performed in an area away from any watercourse. ditch or storm drain.

5. **Equipment Fueling and Maintenance,** oil changing. etc .. shall be performed away from watercourses. ditches or storm drains. in an area designated for that purpose. The designated area shall be equipped for recycling oil and catching spills. Secondary containment shall be provided for all fuel oil storage tanks. These areas must be inspected every seven days and within 24 hrs. of a 0.5 inch or greater rain event to ensure there are no exposed materials which would contaminate storm water. Site operators must be aware that Spill Prevention Control and Countermeasures (SPCC) requirements may apply. An SPCC plan is required for sites with one single above ground tank of 660 gallons or more, accumulative above ground storage of 1330 gallons or more, or 42,000 gallons of underground storage. Contaminated soils must be disposed of in accordance with Item 8.

6. **Concrete Wash Water** shall not be allowed to flow to streams, ditches, storm drains, or any other water conveyance. A sump or pit with no potential for discharge shall be constructed if needed to contain concrete wash water. Field tile or other subsurface drainage structures within 10 ft. of the sump shall be cut and plugged.

7. **Spill Reporting Requirements:** Spills on pavement shall be absorbed with sawdust or kitty litter and disposed of with the trash at a licensed sanitary landfill. Hazardous or industrial wastes such as most solvents, gasoline, oil-based paints, and cement curing compounds require special handling. Spills shall be reported to Ohio EPA (1-800-282-9378). Spills of 25 gallons or more of petroleum products shall be reported to Ohio EPA, the local fire department, and the Local Emergency Planning Committee within 30 min. of the discovery of the release. All spills which contact waters of the state must be reported to Ohio EPA.

8. **Contaminated Soils.** If substances such as oil, diesel fuel, hydraulic fluid, antifreeze, etc. are spilled, leaked, or released onto the soil, the soil should be dug up and disposed of at licensed sanitary landfill or other approved petroleum contaminated soil remediation facility. (not a construction/demolition debris landfill). Note that storm water runoff associated with contaminated soils are not be authorized under Ohio EPA's General Storm Water Permit associated with Construction Activities.

9. **Open Burning.** No materials containing rubber, grease, asphalt, or petroleum products, such as tires, autoparts, plastics or plastic coated wire may be burned (OAC 3745-19). Open burning is not allowed in restricted areas, which are defined as: 1) within corporation limits□2) within 1000 feet outside a municipal corporation having a population of 1000 to 10,000□and 3) a one mile zone outside of a corporation of 10, 000 or more. Outside of restricted areas, no open burning is allowed within a 1000 feet of an inhabited building on another property. Open burning is permissible in a restricted area for: heating tar, welding, smudge pots and similar occupational needs, and heating for warmth or outdoor barbeques. Outside of restricted areas, open burning is permissible for landscape or land-clearing wastes (plant material, with prior written permission from Ohio EPA) , and agricultural wastes, excluding buildings.

10. **Dust Control or dust suppressants** shall be used to prevent nuisance conditions, in accordance with the manufacturer's specifications and in a manner, which prevent a discharge to waters of the state. Sufficient distance must be provided between applications and nearby bridges, catch basins, and other waterways. Application (excluding water) may not occur when rain is imminent as noted in the short term forecast. Used oil may not be applied for dust control.

11. **Other Air Permitting Requirements:** Certain activities associated with construction will require air permits including but not limited to: mobile concrete batch plants, mobile asphalt plants, concrete crushers, large generators, etc. These activities will require specific Ohio EPA Air Permits for installation and operation. Operators must seek authorization from the corresponding district of Ohio EPA. For demolition of all commercial sites, a Notification for Restoration and Demolition must be submitted to Ohio EPA to determine if asbestos corrective actions are required.

12. **Process Waste Water/Leachate Management.** Ohio EPA's Construction General Permit only allows the discharge of storm water and does not include other waste streams/discharges such as vehicle and/or equipment washing, on-site septic leachate concrete wash outs, which are considered process wastewaters. All process wastewaters must be collected and properly disposed at an approved disposal facility. In the event, leachate or septage is discharged□it must be isolated for collection and proper disposal and corrective actions taken to eliminate the source of waste water.

13. **A Permit To Install (PTn** is required prior to the construction of all centralized sanitary systems, including sewer extensions, and sewerage systems (except those serving one, two, and three family dwellings) and potable water lines. Plans must be submitted and approved by Ohio EPA. Issuance of an Ohio EPA Construction General Storm Water Permit does not authorize the installation of any sewerage system where Ohio EPA has not approved a PTI.

OHIO EPA PERMIT NO. OHC000006

PART III G. SWP3 REQUIREMENTS

a. COMMERCIAL BUILDING EXPANSION

b. TOTAL SITE AREA - 27.8 AC. - DISTURBED AREA □27.8 AC.

c. PRE-CONSTRUCTION RUNOFF COEFFICIENT - C□0.90□POST-CONSTRUCTION RUNOFF COEFFICIENT C□0.87

d. IMPERVIOUS AREA □13.46 AC. (ENTIRE SITE), PERCENT IMPERVIOUS □48.4□.

e. SOIL TYPES:
- Ho HOLLY SILT LOAM
- RsB RITTMAN SILT LOAM
- RsC2 RITTMAN SILT LOAM
- Sb SEBRING SILT LOAM
- Uf ODORTHENTS
- Up UDORTHENTS

f. PRIOR LAND USE: DEVELOPED COMMERCIAL

g. CONSTRUCTION SEQUENCE - SEE IMPROVEMENT PLANS

h. UNNAMED TRIBUTARY TO BRANDYWINE CREEK
- NO WETLANDS

i. NOT SUBDIVIDED (MEASURES IDENTIFIED ON PLANS)

j. NOT APPLICABLE

k. PERMIT REQUIREMENTS ATTACHED. (FIELD COPY)

l. IDENTIFIED ON SHEET C106

m. IDENTIFIED ON SHEET C106

n. SITE MAP SHOWN ON PLANS
   (i) LIMITS OF CONSTRUCTION IDENTIFIED ON THE PLANS (LC).
   (ii) SOIL TYPES IDENTIFIED ON THE PLANS
   (iii) DRAINAGE WATER SHEDS IDENTIFIED ON THE PLANS.
   (iv) THERE ARE NO WETLANDS ON THE SITE. NO SPRINGS, LAKES OR WATER WELLS WITHIN 200 FEET OF THE SITE.
   (v) EXISTING □ PLANNED LOCATIONS OF BUILDINGS, ROADS, PARKING FACILITIES AND UTILITIES ARE IDENTIFIED ON THE PLANS.
   (vi) EROSION AND SEDIMENT CONTROL PRACTICES ARE IDENTIFIED ON THE PLANS.
   (vii) SEDIMENT □ STORM WATER MANAGEMENT DATA IS IDENTIFIED ON THE PLANS.
   (viii) PERMANENT STORM WATER MANAGEMENT PRACTICES ARE IDENTIFIED ON THE PLANS.
   (ix) CEMENT TRUCK WASHOUT, DUMPSTER □ VEHICLE FUELING AREA ARE IDENTIFIED ON THE PLANS.
   (x) CONSTRUCTION ENTRANCE IS IDENTIFIED ON THE PLANS.
   (xi) NOT APPLICABLE

2. A. NOT APPLICABLE.
   B. TEMPORARY SEEDING AND PERMANENT SEEDING MEASURES ARE IDENTIFIED ON THE PLANS.
      (I) TABLE 1 □ TABLE 2 HAVE BEEN IDENTIFIED ON THE PLANS.
      (II)NOT APPLICABLE.
   C. SHEET FLOW RUNOFF HAS BEEN CONTROLLED BY MEANS OF SILT FENCE AND DIRECTED TOWARDS UNDISTURBED SOILS. POINT DISCHARGES HAVE BEEN CONTAINED WITHIN STORM SEWERS.
   D. SEDIMENT CONTROL HAS BEEN MANAGED BY MEANS OF SILT FENCE.
      (I) NOTED THROUGHOUT THE PLANS.
      (II) SILT FENCE UTILIZED.
      (III) SILT FENCE IS IDENTIFIED ON THE PLANS.
      (IV) INLET PROTECTION IS IDENTIFIED ON THE PLANS.
      (V) NOT APPLICABLE.
      (VI) NOTED ON THE IMPROVEMENT PLANS.
   E. POST-CONSTRUCTION MAINTENANCE AND INSPECTION IS IDENTIFIED ON THE PLANS.
      LARGE CONSTRUCTION ACTIVITIES - NOT APPLICABLE
      SMALL CONSTRUCTION ACTIVITIES - RATIONALE IDENTIFIED ON PLANS
   F. SURFACE WATER PROTECTION - NOT APPLICABLE
   G. OTHER CONTROLS
      (I) CEMENT TRUCK WASHOUT AREA IS IDENTIFIED ON THE PLANS.
      (II)DUST CONTROL MEASURES AND VEHICLE TRACKING ARE IDENTIFIED ON THE PLANS.
      (III) ADDITIONAL NOTES ARE IDENTIFIED ON THE PLANS.
      (IV) NOTED ON THE PLANS.
      (V) NOTED ON THE PLANS.
   H. NOTED THROUGHOUT THE PLANS.
   I. INSPECTION FREQUENCY AND INSPECTION CHECKLIST IS NOTED ON THE PLANS.
      (I) NOTED ON THE PLANS.
      (II) NOTED ON THE PLANS.
      (III) STATEMENT NOTED.

3. APPROVED STATE OR LOCAL PLANS
   STATEMENT NOTED.

4. EXCEPTIONS
   STATEMENT NOTED.

CONSTRUCTION SEQUENCE

(ALL ITEMS ARE TO BE THE RESPONSIBILITY OF THE GENERAL SITE CONTRACTOR)

SITE PREPARATION

NOTE:

PROVIDE SAFE AND SECURE PEDESTRIAN AND VEHICULAR TRAFFIC CIRCULATION THROUGHOUT THE ENTIRETY OF THE CONSTRUCTION SEQUENCE WITH WELL DEFINED CONSTRUCTION BOUNDARIES TO BE ACCESSED BY CONSTRUCTION PERSONNEL ONLY. ALL EROSION CONTROLS ARE TO BE THOROUGHLY INSPECTED BY THE CONTRACTOR UPON THE COMPLETION OF EACH WORK DAY AND MAINTAINED THROUGHOUT THE REQUIRED LIFE OF THE CONTROL, AS SPECIFIED BY THE APPROVED EROSION AND SEDIMENTATION CONTROL PLANS AND NARRATIVE. THE CONTRACTOR MUST REVIEW THE APPROVED EROSION AND SEDIMENTATION CONTROL PLANS AND NARRATIVE. THE CONTRACTOR MUST REVIEW THE APPROVED NPDES PERMIT AND SIGN THE PERMIT TO ACCEPT RESPONSIBILITIES AS THE CO-PERMITEE.

INITIAL PHASE (WITHIN 7 DAYS OF START OF GRUBBING)

1. INSTALL A TEMPORARY CONSTRUCTION ENTRANCE FOR ACCESS TO CONSTRUCTION AREAS OF SITE.
2. SETUP CONSTRUCTION TRAILER ON SITE AND ESTABLISH TEMPORARY POWER AND TELEPHONE SERVICE AS NECESSARY.
3. ALL TEMPORARY UTILITY SERVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. STAKEOUT LIMITS OF DISTURBANCE.
5. INSTALL TEMPORARY INLET PROTECTION ON ALL EXISTING CATCH BASINS WITHIN LIMITS OF CONSTRUCTION. REMOVE SILT PROTECTION FROM DESIGNATED INLETS ONLY WHEN INLET STRUCTURE IS TO BE REMOVED AS REQUIRED BY PROGRESSION OF CONSTRUCTION. REFER TO PLANS FOR IDENTIFICATION OF INLET STRUCTURES TO BE REMOVED.
6. INSTALL ALL FILTER FABRIC FENCE WHERE SHOWN ON PLANS.
7. BEGIN SITE CLEARING.
8. REMOVE TOPSOIL FROM AREAS OF BUILDING AND PAVEMENT.
9. BEGIN EARTHWORK OPERATIONS.
10. CONSTRUCT STORM WATER BASIN.
11. IN THE EVENT OF RAIN, ALLOW STANDING WATER TO SETTLE PRIOR TO PUMPING. UTILIZE THE PUMPING SYSTEMS TO PUMP POLLUTED WATER PER E.P.A. REQUIREMENTS. ALLOW ONLY CLEAN WATER TO BE DISCHARGED TO THE EXISTING DRAINAGE SYSTEM. REMOVE SILT FROM BASINS AS NECESSARY PRIOR TO CONTINUING EARTHWORK. MATERIAL SHOULD BE MECHANICALLY SPREAD AND DRIED PRIOR TO INCORPORATION INTO THE EARTHWORK PROCEDURES. ADEQUACY OF THE DRIED MATERIAL IS TO BE DETERMINED BY A GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE AND ENSURE THAT PROPER MECHANISMS ARE IN PLACE TO CONTROL WASTE MATERIALS. CONSTRUCTION WASTES INCLUDES, BUT ARE NOT LIMITED TO, EXCESS SOIL MATERIALS, BUILDING MATERIALS, CONCRETE WASH WATER, SANITARY WASTES, ETC., THAT COULD ADVERSELY IMPACT WATER QUALITY. MEASURES SHALL BE PLANNED AND IMPLEMENTED FOR HOUSEKEEPING, MATERIALS MANAGEMENT, AND LITTER CONTROL. WHEREVER POSSIBLE, RECYCLING OF EXCESS MATERIALS IS PREFERRED, RATHER THAN DISPOSAL.

INTERIM PHASE GENERAL CONSTRUCTION

1. MAINTAIN TEMPORARY CONTROLS UNTIL REMOVAL IS WARRANTED DUE TO PROGRESSION OF WORK.
2. BEGIN EARTHMOVING OPERATIONS. CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE COUNTY CONSERVATION DISTRICT OF LOCATION AND EROSION AND SEDIMENTATION CONTROL MEASURES IMPLEMENTED AT BORROW OR SPOIL SITE OF IMPORT/EXPORT MATERIAL. THE CONTRACTOR IS TO COORDINATE WITH OWNER THE PLACEMENT OF SUCH MEASURES.
3. STORM SEWER, SANITARY SEWER, WATER LINE AND UTILITY LINE CONSTRUCTION MAY BEGIN IMMEDIATELY FOLLOWING ESTABLISHMENT OF GRADE AND WITH THE PERMISSION OF THE OWNER.
4. STABILIZE ALL UTILITY TRENCHES AT THE END OF EACH WORKDAY BY MEANS OF GRAVEL BACKFILL TO SURFACE, REPAVING OR MULCHING.
5. REPLACE TOPSOIL, FINE GRADE AND SEED AS REQUIRED.
6. STABILIZE ALL DISTURBED AREAS WITH PERMANENT SEED AND MULCHING OR CROWNVETCH SEEDING IMMEDIATELY UPON REACHING FINAL GRADE.
7. INSTALL PAVEMENT SUBBASE.
8. BEGIN BITUMINOUS PAVING, REMOVING TEMPORARY CONSTRUCTION ENTRANCE ONLY WHEN NECESSARY.
9. RESEED AND REDRESS ANY AREAS THAT MAY REQUIRE ATTENTION IMMEDIATELY. NOTE THAT LAWN AREAS WILL NOT BE DEEMED STABLE UNTIL A UNIFORM 80□ COVERAGE IS ACHIEVED.
10. ALL EROSION MEASURES SHALL REMAIN IN PLACE UNTIL THE SITE IS STABILIZED. ALL AREAS OF VEGETATIVE SURFACE STABILIZATION, WHETHER TEMPORARY OR PERMANENT, SHALL BE CONSIDERED TO BE IN PLACE AND FUNCTIONAL WHEN THE REQUIRED UNIFORM RATE OF COVERAGE (80□) IS OBTAINED.

FINAL PHASE POST-PAVING BASIN CONVERSION

1. IF, FOR ANY REASON, THE PROJECT IS SUSPENDED, THE CONTRACTOR SHALL INSURE THAT ALL INSTALLED EROSION MEASURES ARE FUNCTIONING AND PROPERLY MAINTAINED DURING THIS PERIOD, AND THAT ALL BARED SOILS ARE SEEDED AND MULCHED WITH TEMPORARY SEED MIXTURE.
2. THE FOLLOWING ITEMS MUST BE COMPLETED BY THE CONTRACTOR, IN ORDER, ONCE THE SITE HAS BEEN DEEMED STABLE:
   A. REMOVE SEDIMENT CONTROL DEVICES AND ESTABLISH WATER QUALITY CONTROL ORIFICE.
   B. REMOVE TEMPORARY CONSTRUCTION ENTRANCE PRIOR TO COMPLETION OF PAVING.
   C. SITE CLEAN UP.
   D. RESEED ANY AREAS THAT REQUIRE ADDITIONAL SEED
   E. FILTER FENCES ARE TO BE CLEANED, REMOVED, BACKFILLED AND SEEDED WITH PERMANENT SEEDING.
   F. VERIFY POSITIVE CONVEYANCE FLOW IN ALL DRAINAGE STRUCTURES.

SPECIFICATIONS FOR TEMPORARY SEEDING

TEMPORARY SEEDING SPECIES SELECTION

SEEDING DATES	SPECIES	LB/100 FT□2	LB/ACRE
MARCH 1 TO AUGUST 15	OATS TALL FESCUE ANNUAL RYEGRASS	3 1 1	128 (4 BUSHEL) 40 40
	PERENNIAL RYEGRASS TALL FESCUE ANNUAL RYEGRASS	1 1 1	40 40 40
	ANNUAL RYEGRASS PERENNIAL RYEGRASS CREEPING RED FESCUE KENTUCKY BLUEGRASS	1.25 3.25 0.4 0.4	55 142 17 17
	OATS TALL FESCUE ANNUAL RYEGRASS	3 1 1	128 (3 BUSHELS) 40 40
AUGUST 16TH TO NOVEMBER	RYE TALL FESCUE ANNUAL RYEGRASS	3 1 1	112 (2 BUSHEL) 40 40
	WHEAT TALL FESCUE ANNUAL RYEGRASS	3 1 1	120 (BUSHEL) 40 40
	PERENNIAL RYE TALL FESCUE ANNUAL RYEGRASS	1 1 1	40 40 40
	ANNUAL RYEGRASS PERENNIAL RYEGRASS CREEPING RED FESCUE KENTUCKY BLUEGRASS	1.25 3.25 0.4 0.4	40 40 40
NOVEMBER 1 TO FEB. 29	USE MULCH ONLY FOR DORMANT SEEDING		

NOTE: OTHER APPROVED SPECIES MAY BE SUBSTITUTED

1. STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS AND SEDIMENT TRAPS SHALL BE INSTALLED AND STABILIZED WITH TEMPORARY SEEDING PRIOR TO GRADING THE REST OF THE CONSTRUCTION-SITE.
2. TEMPORARY SEED SHALL BE APPLIED BETWEEN CONSTRUCTION OPERATIONS ON SOIL THAT WILL NOT BE GRADED OR REWORKED FOR 14 DAYS OR MORE. THESE IDLE AREAS SHOULD BE SEEDED AS SOON AS POSSIBLE AFTER GRADING OR SHALL BE SEEDED WITHIN 7 DAYS. SEVERAL APPLICATIONS OF TEMPORARY SEEDING ARE NECESSARY ON TYPICAL CONSTRUCTION PROJECTS.
3. THE SEEDBED SHALL BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION. HOWEVER, TEMPORARY SEEDING SHALL NOT BE POSTPONED IF IDEAL SEEDBED PREPARATION IS NOT POSSIBLE.
4. SOIL AMENDMENTS--APPLICATIONS OF TEMPORARY VEGETATION SHALL ESTABLISHED ADEQUATE STANDS OF VEGETATION WHICH MAY REQUIRE THE USE OF SOIL AMENDMENTS. SOIL TESTS SHOULD BE TAKEN ON THE SITE TO PREDICT THE NEED FOR LIME AND FERTILIZER.
5. SEEDING METHOD--SEED SHALL BE APPLIED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER. WHEN FEASIBLE, SEED THAT HAS BEEN BROADCAST SHALL BE COVERED BY RAKING OR DRAGGING AND THEN LIGHTLY TAMPED INTO PLACE USING A ROLLER OR CULTIPACKER. IF HYDROSEEDING IS USED, THE SEED AND FERTILIZER WILL BE MIXED ON-SITE AND THE SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.

MULCHING TEMPORARY SEEDING

1. APPLICATIONS OF TEMPORARY SEEDING SHALL INCLUDE MULCH WHICH SHALL BE APPLIED DURING OR IMMEDIATELY AFTER SEEDING. SEEDINGS MADE DURING OPTIMUM SEEDING DATES AND WITH FAVORABLE SOIL CONDITIONS AND ON VERY FLAT SOIL CONDITIONS MAY NOT NEED MULCH TO ACHIEVE ADEQUATE STABILIZATION.
2. MATERIALS: STRAW--IF STRAW IS USED, IT SHALL BE UNROTTED SMALL-GRAIN APPLIED AT 2 TONS/AC. OR 90 LB. / 1,000 SQ. FT. (TWO TO THREE BALES). THE MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQ. FT. SECTIONS AND SPREAD TWO 45 LB. BALES OF STRAW IN EACH SECTION. HYDROSEEDERS--IF WOOD CELLULOSE FIBER IS USED, IT SHALL BE USED AT 2,000 LB. / AC. OR 46 LB. /1,000 SQ. FT. OTHER--OTHER ACCEPTABLE MULCHES INCLUDE MULCH MATTINGS APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS OR WOOD CHIPS APPLIED AT 6 TONS / AC.
3. STRAW MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR WATER. ANCHORING METHODS: MECHANICAL--A DISK, CRIMPER OR SIMILAR TYPE TOOL SHALL BE SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT, GENERALLY BE LEFT LONGER THAN 6 IN. MULCH NETTINGS--NETTINGS SHALL BE USED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. NETTING MAY BE NECESSARY TO HOLD MULCH IN PLACE IN AREAS OF CONCENTRATED RUNOFF AND ON CRITICAL SLOPES. SYNTHETIC BINDERS--SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI-TAC), DCA-70, PETROSET, TERRA-TACK OR EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER. WOOD-CELLULOSE FIBRE--WOOD-CELLULOSE FIBER BINDER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 LB. /AC. THE WOOD-CELLULOSE FIBER SHALL BE MIXED WITH WATER AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LB. / 100 GAL.

BMP INSPECTION CHECKLIST

BMP	FREQUENCY	NOTES
GENERAL INSPECTION	EVERY 6 MO.	
STORM WATER BASIN	MONTHLY	
VEGETATION	MONTHLY	FIRST 2 GROWING
		SEASONS THEN TWICE A YEAR
SILT FENCE	MONTHLY	FIRST GROWING SEASON

REGULAR INSPECTION AND MAINTENANCE WILL BE PROVIDED FOR ALL EROSION AND SEDIMENT CONTROL PRACTICES. PERMANENT RECORDS OF MAINTENANCE AND INSPECTIONS MUST BE KEPT THROUGHOUT THE CONSTRUCTION PERIOD. INSPECTIONS MUST BE MADE A MINIMUM OF ONCE EVERY 7 DAYS AND IMMEDIATELY AFTER STORM EVENTS GREATER THAN 0.5 INCHES OF RAIN IN A 24 HOUR PERIOD. PROVIDED WILL BE NAME OF INSPECTOR, MAJOR OBSERVATIONS, DATED OF INSPECTION AND CORRECTIVE MEASURES TAKEN. RECORDS SHALL BE SUBMITTED TO THE CITY OF MACEDONIA ENGINEERING DEPARTMENT FOR REVIEW BY MAY 1st OF EACH YEAR.

ALL CONTROL PRACTICES THAT REQUIRE REPAIR SHALL BE REPAIRED WITHIN THREE (3) DAYS OF THE INSPECTION.

ADDITIONAL SWP3 CONSIDERATIONS

NO OPEN BURNING

DUST CONTROL SHALL BE ACHIEVED BY USE OF WATERING TRUCKS. USE OF OIL IS STRICTLY PROHIBITED. INLET PROTECTION MUST BE IMPLEMENTED PRIOR TO DUST CONTROL MEASURES.

IN THE EVENT OF A PETROLEUM SPILL (□25 GALLONS) OR THE PRESENCE OF OIL SHEEN, THE CONTRACTOR SHALL CONTACT THE OHIO E.P.A. AT 800-282-9378, THE LOCAL FIRE DEPARTMENT.

SMALL SPILLS (□25 GALLONS) SHALL BE CLEANED UP USING AN ABSORBING AGENT, THE ABSORBING AGENT REMOVED AND DISPOSED OF ACCORDING TO FEDERAL REGULATIONS.

ALL TRENCH DEWATERING MEASURES SHALL BE DISCHARGED INTO SETTLING BASINS PRIOR TO DISCHARGE FROM SITE. BMP'S THAT REQUIRE REPAIR SHALL BE REPAIRED WITHIN 3 DAYS OF INSPECTION. SETTLING PONDS MUST BE REPAIRED WITHIN 10 DAYS OF INSPECTION.

STREETS ADJACENT TO SITE SHALL BE CLEANED AT THE END OF EACH WORK DAY.

POST-CONSTRUCTION BMP RATIONALE

STORM WATER MANAGEMENT AND POST CONSTRUCTION WATER QUALITY BMP'S HAVE BEEN ADDRESSED BY MEANS OF AN ON-SITE STORM WATER MANAGEMENT/WATER QUALITY BASIN.

MAINTENANCE FOR PERMANENT SEEDINGS FERTILIZATION AND MOWING

MIXTURE	FORMULA	LBS./ACRE	LBS./1,000 SQ. FT	TIME	MOWING
CREEPING RE FESCUE RYEGRASS KEENTCKY BLUEGRASS	10-10-10	500	12	FALL, YEARLY AS NEEDED	NOT CLOSER THAN 3"
TALL FESCUE	10-10-10	500	12		NOT CLOSER THAN 4"
TURF-TYPE FESCUE	10-10-10	500	12		
CROWN VETCH FESCUE	0-20-20	400	10	SPRING, YEARLY FOLLOWING ESTABLISHMENT AND EVERY 4-7 YEARS THEREAFTER	DO NOT MOW
FLAT PEA FESCUE	0-20-20	400	10		DO NOT MOW

NOTE: FOLLOWING SOIL TEST RECOMMENDATIONS IS PREFERRED TO FERTILIZER RATES SHOWN ABOVE.

SPECIFICATIONS FOR PERMANENT SEEDING

SITE PREPARATION

1. A SUBSOILER, PLOW OR OTHER IMPLEMENT SHALL BE USED TO REDUCE SOIL COMPACTION AND ALLOW MAXIMUM INFILTRATION. (MAXIMIZING INFILTRATION WILL HELP CONTROL BOTH RUNOFF RATE AND WATER QUALITY.) SUBSOILING SHOULD BE DONE WHEN THE SOIL MOISTURE IS LOW ENOUGH TO ALLOW THE SOIL TO CRACK OR FRACTURE. SUBSOILING SHALL NOT BE DONE ON SLIP-PRONE AREAS WHERE SOIL PREPARATION SHOULD BE LIMITED TO WHAT IS NECESSARY FOR ESTABLISHING VEGETATION.
2. THE SITE SHALL BE GRADED AS NEEDED TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION AND SEEDING.
3. TOPSOIL SHALL BE APPLIED WHERE NEEDED TO ESTABLISH VEGETATION. SEEDBED PREPARATION
   a. LIME--AGRICULTURAL GROUND LIMESTONE SHALL BE APPLIED TO ACID SOIL AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A SOIL TEST, LIME SHALL BE APPLIED AT THE RATE OF 100 LB./1,000 SQ. FT. OR 2 TONS/ACRE.
   b. FERTILIZER--FERTILIZER SHALL BE APPLIED AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A SOIL TEST, FERTILIZER SHALL BE APPLIED AT A RATE OF 25 LB./1,000 SQ. FT. OR 1000 LB./ACRE OF 10-10-10 OR 12-12-12 ANALYSES.
   c. THE LIME AND FERTILIZER SHALL BE WORKED INTO THE SOIL WITH A DISK HARROW, SPRING-TOOTH HARROW OR OTHER SUITABLE FIELD IMPLEMENT TO A DEPTH OF 3 INCHES. ON SLOPING LAND, THE SOIL SHALL BE WORKED ON THE CONTOUR.

EROSION PREVENTION PRACTICES

SEEDING DATES AND SOIL CONDITIONS

SEEDING SHOULD BE DONE MARCH 1 TO MAY 31 OR AUG 1 TO SEPTEMBER 30. IF SEEDING OCCURS OUTSIDE OF THE ABOVE SPECIFIED DATES, ADDITIONAL MULCH AND IRRIGATION MAY BE REQUIRED TO ENSURE A MINIMUM OF 80□ GERMINATION. TILLAGE FOR SEEDBED PREPARATION SHOULD BE DONE WHEN SOIL IS DRY ENOUGH TO CRUMBLE AND NOT FORM RIBBONS WHEN COMPRESSED BY HAND. FOR WINTER SEEDING, SEE THE FOLLOWING SECTION ON DORMANT SEEDING.

DORMANT SEEDING

1. SEEDINGS SHOULD NOT BE MADE FROM OCTOBER 1 THROUGH NOVEMBER 20. DURING THIS PERIOD, THE SEEDS ARE LIKELY TO GERMINATE BUT PROBABLY WILL NOT BE ABLE TO SURVIVE THE WINTER.
2. THE FOLLOWING METHODS MAY BE USED FOR "DORMANT SEEDING":

- FROM OCTOBER 1 THROUGH NOVEMBER 20, PREPARE THE SEEDBED, ADD THE REQUIRED AMOUNTS OF LIME AND FERTILIZER, THEN MULCH AND ANCHOR. AFTER NOVEMBER 20, BROADCAST THE SELECTED SEED MIXTURE AT A 50□ INCREASE IN THE SEEDING RATE.
- FROM NOVEMBER 20 THROUGH MARCH 15, WHEN SOIL CONDITIONS PERMIT, PREPARE THE SEEDBED, LIME AND FERTILIZE, APPLY THE SELECTED SEED MIXTURE, MULCH AND ANCHOR. INCREASE THE SEEDING RATES BY 50□ FOR THIS TYPE OF SEEDING.
- APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER OR HYDRO-SEEDER (SLURRY MAY INCLUDE SEED AND FERTILIZER) ON A FIRM, MOIST SEEDBED.
- WHERE FEASIBLE, EXCEPT WHEN A CULTIPACKER TYPE SEEDER IS USED, THE SEEDBED SHOULD BE FIRMED FOLLOWING SEEDING OPERATIONS WITH A CULTIPACKER, ROLLER OR LIGHT DRAG. ON SLOPING LAND, SEEDING OPERATIONS SHOULD FOLLOW THE CONTOUR WHERE FEASIBLE.

MULCHING

1. MULCH MATERIAL SHALL BE APPLIED IMMEDIATELY AFTER SEEDING. DORMANT SEEDING SHALL BE MULCHED. 100□ OF THE GROUND SURFACE SHALL BE COVERED WITH AN APPROVED MATERIAL.
2. MATERIALS

   STRAW--IF STRAW IS USED IT SHALL BE UNROTTED SMALL-GRAIN STRAW APPLIED AT THE RATE OF 2 TONS/ACRE OR 90 LB./1,000 SQ. FT. (TWO TO THREE BALES). THE MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF DIVIDE AREA INTO APPROXIMATELY 1,000-SQ.-FT. HAND-SPREAD MULCH, SECTIONS AND SPREAD TWO 45-LB. BALES OF STRAW IN EACH SECTION.

   HYDROSEEDERS--IF WOOD CELLULOSE FIBER IS USED, IT SHALL BE USED AT 2,000 LB./ACRE. OR 46 LB./1,000 SQ. FT.

   OTHER--OTHER ACCEPTABLE MULCHES INCLUDE ROLLED EROSION CONTROL MATTINGS OR BLANKETS APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS OR WOOD CHIPS APPLIED AT 6 TONS/ACRE.
3. STRAW AND MULCH ANCHORING METHODS

   STRAW MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR WATER.

   MECHANICAL--A DISK, CRIMPER OR SIMILAR TYPE TOOL SHALL BE SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT GENERALLY LEFT LONGER THAN 6 IN.

   MULCH NETTINGS-NETTINGS SHALL BE USED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. NETTING MAY BE NECESSARY TO HOLD MULCH IN PLACE IN AREAS OF CONCENTRATED RUNOFF AND ON CRITICAL SLOPES.

   SYNTHETIC BINDERS-SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI-TAC), DCA-70, PETROSET, TERRA TACK OR EQUIVALENT MAY BE USED AT RATES SPECIFIED BY THE MANUFACTURER.

EROSION PREVENTION PRACTICES

WOOD CELLULOSE FIBER--WOOD CELLULOSE FIBER BINDER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 LBS./ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER WITH THE MIXTURE CONTAINING A MAXIMUM OF 50 LBS. CELLULOSE/100 GALLONS OF WATER.

IRRIGATION

1. PERMANENT SEEDING SHALL INCLUDE IRRIGATION TO ESTABLISH VEGETATION DURING DRY WEATHER OR ON ADVERSE SITE CONDITIONS, WHICH REQUIRE ADEQUATE MOISTURE FOR SEED GERMINATION AND PLANT GROWTH.
2. IRRIGATION RATES SHALL BE MONITORED TO PREVENT EROSION AND DAMAGE TO SEEDED AREAS FROM EXCESSIVE RUNOFF.

PERMANENT SEEDING

SEED MIX	SEEDING RATE		NOTES
	LBS./ACRE	LBS./1,000 SQ. FEET	
GENERAL USE			
CREEPING RED FESCUE DOMESTIC RYEGRASS KENTUCKY BLUEGRASS	20-40 10-20 20-40	1/2-1 1/4-1/2 1/2-1	FOR CLOSE MOWING □ FOR WATERWAYS WITH□2.0 FT/SEC VELOCITY
TALL FESCUE	40-50	1-1 1/4	
TURF- TYPE (DWARF) FESCUE	90	2 1/4	
STEEP BANKS OR CUT SLOPES			
TALL FESCUE	40-50	1-1/4	
CROWN VETCH TALL FESCUE	10-20 20-30	1/4-1/2 1/2-3/4	DO NOT SEED LATER THAN AUGUST
FLAT PEA TALL FESCUE	20-25 20-30	1/2-3/4 1/2-3/4	DO NOT SEED LATER THAN AUGUST
ROAD DITCHES AND SWALES			
TALL FESCUE	40-50	1-1 1/4	
TURF-TYPE (DWARF) FESCUE KENTUCKY BLUEGRASS	90 5	2 1/4 0.1	
LAWNS			
KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	100-120	2 2	
KENTUCKY BLUEGRASS CREEPING RED FESCUE	100-120	2 1-1/2	FOR SHADED AREAS

NOTE: OTHER APPROVAL SEED SPECIES MAY BE SUBSTITUTED.

TABLE 1: PERMANENT STABILIZATION

AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY AREAS THAT WILL LIE DORMANT FOR ONE YEAR OR MORE	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE
ANY AREAS WITHIN 50 FEET OF A SURFACE WATER OF THE STATE AND AT FINAL GRADE	WITHIN TWO DAYS OF REACHING FINAL GRADE
ANY OTHER AREAS AT FINAL GRADE	WITHIN SEVEN DAYS OF REACHING FINAL GRADE WITHIN THAT AREAS

TABLE 2: TEMPORARY STABILIZATION

AREA REQUIRING TEMPORARY STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY DISTURBED AREAS WITHIN 50 FEET OF A SURFACE WATER OF THE STATE AND NOT AT FINAL GRADE	WITHIN TWO DAYS OF THE MOST RECENT DISTURBANCE IF THE AREA WILL REMAIN IDLE FOR MORE THAN 14 DAYS
FOR ALL CONSTRUCTION ACTIVITIES, AND DISTURBED AREAS THAT WILL BE DORMANT FOR MORE THAN 14 DAYS BUT LESS THAN ONE YEAR, AND NOT WITHIN 50 FEET OF A SURFACE WATER OF THE STATE	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE WITHIN THE AREA FOR RESIDENTIAL SUBDIVISIONS, DISTURBED AREAS MUST BE STABILIZED AT LEAST SEVEN DAYS PRIOR TO TRANSFER OF PERMIT COVERAGE FOR THE INDIVIDUAL LOT(S).
DISTURBED AREAS THAT WILL BE IDLE OVER WINTER	PRIOR TO THE ONSET OF WINTER WEATHER

WHERE VEGETATIVE STABILIZATION TECHNIQUES MAY CAUSE STRUCTURAL INSTABILITY OR ARE OTHERWISE UNOBTAINABLE, ALTERNATIVE STABILIZATION TECHNIQUES MUST BE EMPLOYED. PERMANENT AND TEMPORARY STABILIZATION ARE DEFINED IN PART VII.

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PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

Issue Date
02-21-2025
03-17-2025
03-28-2025

SWP3 DETAILS

C110
Project No. 2024-317

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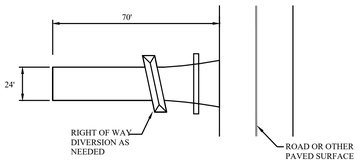
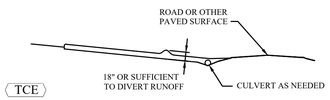


CONSTRUCTION ENTRANCE PLAN

REFERENCE ONLY NOT TO SCALE



TCE

CONSTRUCTION ENTRANCE PROFILE

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1. STONE SI□E - ODOT □2 (1.5-2.5 INCH) STONE SHALL BE USED, OR RECYCLED CONCRETE E□UIVALENT.
2. LENGTH- THE CONSTRUCTION ENTRANCE SHALL BE AS LONG AS RE□UIRED TO STABALI□E HIGH TRAFFIC AREAS BUT NOT LESS THAN 70 FT. (EXCEPTION: APPLY 30 FT. MINIMUM TO SINGLE RESIDENCE LOTS.)
3. THICKNESS- THE STONE LAYER SHALL BE AT LEAST 6 INCHES THICK FOR LIGHT DUTY ENTRANCES OR AT LEAST 10 INCHES FOR HEAVY DUTY USE.
4. WIDTH- THE ENTRANCE SHALL BE AT LEAST 14 FEET WIDE, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. GEOTEXTILE- A GEOTEXTILE SHALL BE LAID OVER THE ENTIRE AREA PRIOR TO PLACING STONE□IT SHALL BE COMPOSED OF STRONG ROT-PROOF POLYMERIC FIBERS AND MEET THE FOLLOWING SPECIFICATIONS.

GEOTEXTILE SPECIFICATION FOR CONSTRUCTION ENTRANCE	
MINIMUM TENSILE STRENGTH	200 LBS.
MINIMUM PUNCTURE STRENGTH	80 PSI.
MINIMUM TEAR STRENGTH	50 LBS.
MINIMUM BURST STENGTH	320 PSI.
MINIMUM ELONGATION	20%
EQUIVALENT OPENING SIZE	EOS<0.6MM.
PERMITTIVITY	1X10^3 CM/SEC.

6. TIMING- THE CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS SOON AS IS PRACTICABLE BEFORE MAJOR GRADING ACTIVITIES.
7. CULVERT- A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE IF NEEDED TO PREVENT SURFACE WATER FROM FLOWING ACROSS THE ENTRANCE OR TO PREVENT RUNOFF FROM BEING DIRECT OUT ONTO PAVED SURFACES.
8. WATER BAR- A WATER BAR SHALL BE CONSTRUCTED AS PART OF THE CONSTRUCTION ENTRANCE IF NEEDED TO PREVENT SURFACE RUNOFF FROM FLOWING THE LENGTH OF THE CONSTRUCTION ENTRANCE AND OUT ONTO PAVED
9. SURFACES.

   MAINTENANCE- TOP DRESSING OF ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS,
10. SHALL BE REMOVED IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.

    CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND
11. PREVENT OFF-SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION-SITE SHALL BE RESTRICTED FROM MUDDY AREAS.

    REMOVAL- THE ENTRANCE SHALL REMAIN IN PLACE UNTIL THE DISTURBED AREA IS STABILI□ED OR REPLACED WITH A PERMANENT ROADWAY OR ENTRANCE.

TCE SPECIFICATIONS FOR CONSTRUCTION ENTRANCE

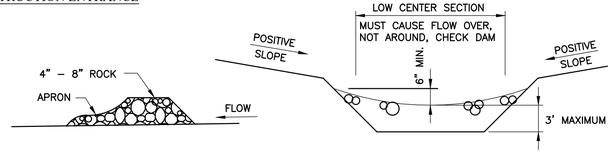
RE□UIREMENTS FOR GEOTEXTILES

PROPERTY	TEST METHOD	WOVEN- CLASS I	NONWOVEN-I
TENSILE STRENGTH (POUNDS) 1/	ASTM C 4632 GRAB TEST	200 MINIMUM IN ANY PRINCIPAL DIRECTION	180 MINIMUM
ELONGATION AT FAILURE (PERCENT) 1/	ASTM D 4632 GRAB TEST	□50	□50
PUNCTURE (POUNDS) 1/	ASTM D 4833	90 MINIMUM	80 MINIMUM
ULTRAVIOLET LIGHT (□ RESIDUAL TENSILE STRENGTH)	ASTM D 4355 150-HR EXPOSURE	70 MINIMUM	70 MINIMUM
APPARENT OPENING SI□E (AOS)	ASTM D 4751	AS SPECIFIED, BUT NO SMALLER THAN .212 (□70) 2/	AS SPECIFIED MAX. □40 2/
PERCENT OPEN AREA (PERCENT)	CWO-02215-86	4.0 MINIMUM	-----
PERMITIVITY SEC-1	ASTM D 4491	0.10 MINIMUM	0.70 MINIMUM

1. MINIMUM AVERAGE ROLL VALUE (WEAKEST PRINCIPAL DIRECTION).
2. U.S. STANDARD SIEVE SI□E NOTE: CWO IS A USACE REFERENCE

RIPRAP SI□E CHART

TYPE OF ROCK OR RIPRAP (ODOT)	"N" VALUE	SI□E OF ROCK	
		50□	85□
TYPE D	.036	□6 IN.	3-12 IN.
TYPE C	.04	□12 IN.	6-18 IN.
TYPE B	.043	□18 IN.	12-24 IN.
TYPE A	.045	□24 IN.	18-30 IN.



CHECK DAM PROFILE

NO SCALE

CHECK DAM CROSS SECTION

NO SCALE

1. THE CHECK DAM SHALL BE CONSTRUCTED OF 4-8 INCH DIAMETER STONE, PLACED SO THAT IT COMPLETELY COVER THE WIDTH OF THE CHANNEL. ODOT TYPE D STONE IS ACCEPTABLE, BUT SHOULD BE UNDERLAIN WITH A GRAVEL FILTER CONSISTING OF ODOT NO. 3 OR 4 OR SUITABLE FILTER FABRIC.
2. MAXIMUM HEIGHT OF CHECK DAM SHALL NOT EXCEED 3.0 FEET.
3. THE MIDPOINT OF THE ROCK CHECK DAM SHALL BE A MINIMUM OF 6 INCHES LOWER THAN THE SIDES IN ORDER TO DIRECT ACROSS THE CENTER AND AWAY FROM THE CHANNEL SIDES.
4. THE BASE OF THE CHECK DAM SHALL BE ENTRENCHED APPROXIMATELY 6 INCHES.
5. SPACING OF CHECK DAMS SHALL BE IN A MANNER SUCH THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM DAM.
6. A SPLASH APRON SHALL BE CONSTRUCTED WHERE CHECK DAMS ARE EXPECTED TO BE IN USE FOR AN EXTENDED PERIOD OF TIME, A STONE APRON SHALL BE CONSTRUCTED IMMEDIATELY DOWNSTREAM OF THE CHECK DAM TO PREVENT FLOWS FROM UNDERCUTTING THE STRUCTURE. THE APRON SHOULD BE 6 IN. THICK AND ITS LENGTH TWO TIMES THE HEIGHT OF THE DAM.
7. STONE PLACEMENT SHALL BE PERFORMED EITHER BY HAND OR MECHANICALLY AS LONG AS THE CENTER OF CHECK DAM IS LOWER THAN THE SIDES AND EXTNEDS ACROSS ENTIRE CHANNEL.
8. SIDE SLOPES SHALL BE MINIMUM OF 2:1

CHECK DAM SPACING				
DAM HEIGHT (FT)	CHANNEL SLOPE			
	<5%	5 – 10%	10 – 15%	15 – 20%
1	65 FT.	30 FT.	20 FT.	15 FT.
2	130 FT.	65 FT.	40 FT.	30 FT.
3	200 FT.	100 FT.	65 FT.	50 FT.

TCD ROCK CHECK DAMS

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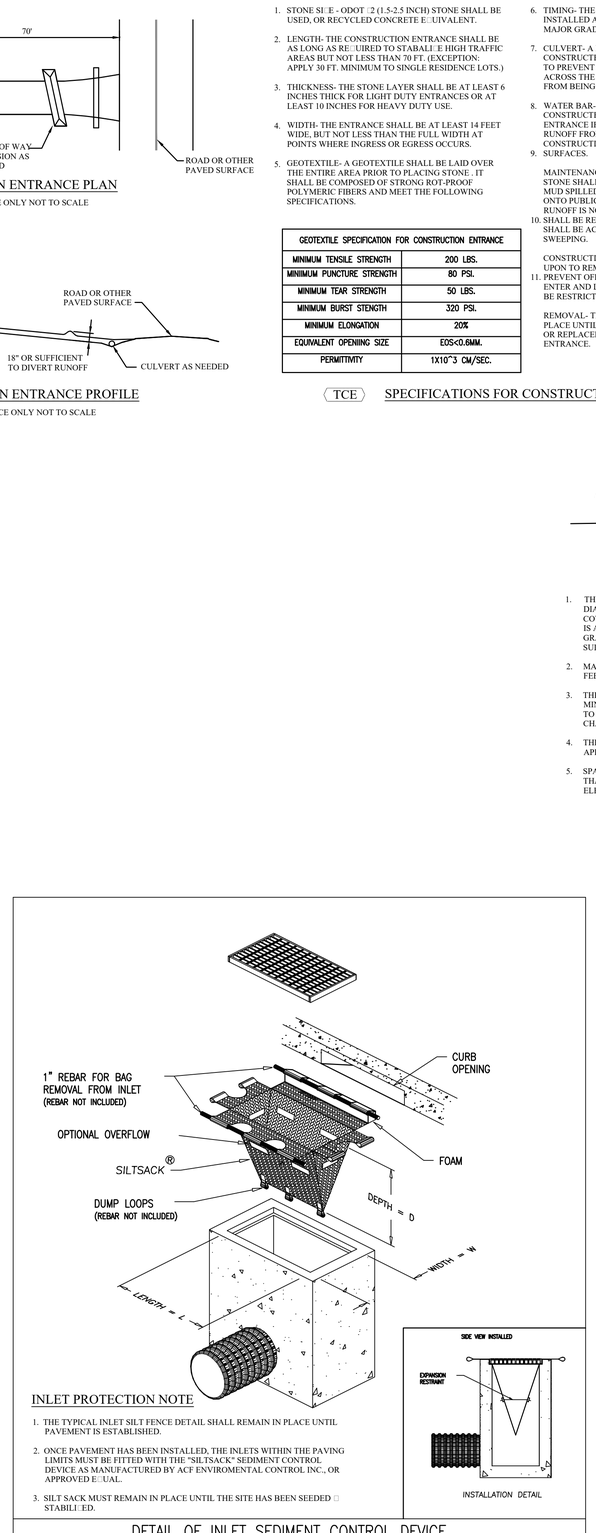


INLET PROTECTION NOTE

1. THE TYPICAL INLET SILT FENCE DETAIL SHALL REMAIN IN PLACE UNTIL PAVEMENT IS ESTABLISHED.
2. ONCE PAVEMENT HAS BEEN INSTALLED, THE INLETS WITHIN THE PAVING LIMITS MUST BE FITTED WITH THE "SILTSACK" SEDIMENT CONTROL DEVICE AS MANUFACTURED BY ACF ENVIROMENTAL CONTROL INC., OR APPRIVED E□UAL.
3. SILT SACK MUST REMAIN IN PLACE UNTIL THE SITE HAS BEEN SEEDED □ STABILI□ED.

DETAIL OF INLET SEDIMENT CONTROL DEVICE WITH CURB DEFLECTOR

IPSS SILTSACK DETAIL

1. SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
2. ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS WHICH MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.
3. TO PREVENT WATER PONDED BY THE SILT FENCE FROM FLOWING AROUND THE ENDS, EACH END SHALL BE CONSTRUCTED UPSLOPE SO THAT THE ENDS ARE AT A HIGHER ELEVATION.
4. WHERE POSSIBLE, SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.
5. WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5 FT. (OR AS MUCH AS POSSIBLE) UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE REESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE SILT FENCE.
6. THE HEIGHT OF THE SILT FENCE SHALL BE A MIN. OF 16 IN. ABOVE THE ORIGINAL GROUND SURFACE.
7. THE SILT FENCE SHALL BE PLACED IN A TRENCH CUT A MIN. OF 6 IN. DEEP. THE TRENCH SHALL BE CUT WITH A TRENCHER, CABLE LAYING MACHINE, OR OTHER SUITABLE DEVICE WHICH WILL ENSURE AN ADE□UATELY UNIFORM TRENCH DEPTH.
8. THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWN SLOPE SIDE OF THE GEOTEXTILE AND SO THAT 8 IN. OF CLOTH ARE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6 IN. DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED ON BOTH SIDES OF THE FABRIC.
9. SEAMS BETWEEN SECTIONS OF SILT FENCE SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST WITH A MINIMUM 6-IN. OVERLAP PRIOR TO DRIVING INTO THE GROUND.
10. MAINTENANCE--SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF OVERTOPS THE SILT FENCE, FLOWS UNDER OR AROUND THE ENDS, OR IN ANY OTHER WAY BECOMES A CONCENTRATED FLOW, ONE OF THE FOLLOWING SHALL BE PERFORMED, AS APPROPRIATE: 1) THE LAYOUT OF THE SILT FENCE SHALL BE CHANGED, 2) ACCUMULATED SEDIMENT SHALL BE REMOVED, OR 3) OTHER PRACTICES SHALL BE INSTALLED.

    SEDIMENT DEPOSITS SHALL BE ROUTINELY REMOVED WHEN THE DEPOSIT REACHES APPROXIMATELYONE-HALF OF THE HEIGHT OF THE SILT FENCE.

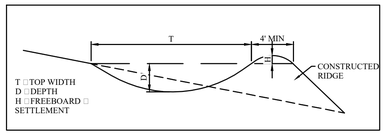
    SILT FENCES SHALL BE INSPECTED AFTER EACH RAINFALL AND AT LEAST DAILY DURING A PROLONGED RAINFALL. THE LOCATION OF EXISTING SILT FENCE SHALL BE REVIEWED DAILY TO ENSURE ITS PROPER LOCATION AND EFFECTIVENESS. IF DAMAGED, THE SILT FENCE SHALL BE REPAIRED IMMEDIATELY.

CRITERIA FOR SILT FENCE MATERIALS

1. FENCE POSTS-- THE LENGTH SHALL BE A MINIMUM OF 32 IN. LONG. WOOD POSTS WILL BE 2-BY-2 IN. HARDWOOD OF SOUND □UALITY. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10 FT.
2. SILT FENCE FABRIC (SEE CHART BELOW):

MINIMUM CRITERIA FOR SILT FENCE FABRIC (ODOT, 2002)		
FABRIC PROPERTIES	VALUES	TEST METHOD
MINIMUM TENSILE STRENGTH	120 LBS. (535 N)	ASTM D 4362
MAXIMUM ELONGATION AT 60 LBS	50%	ASTM D 4632
MINIMUM PUNCTURE STRENGTH	50 LBS (220 N)	ASTM D 4833
MINIMUM TEAR STRENGTH	40 LBS (180 N)	ASTM D 4533
APPARENT OPENING SIZE	<.84 MM	ASTM D 4751
MINIMUM PERMITTIVITY	1X10^2 SEC^-1	ASTM D 4491
UV EXPOSURE STRNEGTH RETENTION	70%	ASTM D 4355

SF SPECIFICATIONS FOR SILT FENCE



1. ALL TREES, BRUSH, STUMPS, AND OTHER UNSUITABLE MATERIAL SHALL BE REMOVED FROM THE WORK SITE.
2. THE DIVERSION SHALL BE EXCAVATED AND SHAPED TO THE PROPER GRADE AND CROSS SECTION.
3. FILL MATERIAL USED IN THE CONSTRUCTION OF THE CHANNEL SHALL BE WELL COMPACTED IN UNIFORM LAYERS NOT EXCEEDING 9 INCHES USING THE WHEEL TREADS OR TRACKS OF THE CONSTRUCTION E□UIPMENT TO PREVENT UNE□UAL SETTLEMENT.
4. EXCESS EARTH SHALL BE GRADED OR DISPOSED OF SO THAT IT WILL NOT RESTRICT FLOW TO THE CHANNEL OR INTERFERE WITH ITS FUNCTIONING.
5. FERTILI□ING, SEEDING, AND MULCHING SHALL CONFORM TO THE RECOMMENDATION IN THE APPLICABLE VEGETATIVE SPECIFICATIONS.
6. CONSTRUCTION SHALL BE SE□UENCED SO THAT THE NEWLY CONSTRUCTED CHANNEL IS STABILI□ED PRIOR TO BECOMING OPERATIONAL. TO AID IN THE ESTABLISHMENT OF VEGETATION, SURFACE WATER MAY BE PREVENTED FROM ENTERING THE NEWLY CONSTRUCTED CHANNEL THROUGH THE ESTABLISHMENT PERIOD.
7. GULLIES THAT MAY FORM IN THE CHANNEL OR OTHER EROSION DAMAGE THAT OCCURS BEFORE THE GRASS LINING BECOMES ESTABLISHED SHALL BE REPAIRED WITHOUT DELAY.

TDC SPECIFICATIONS FOR TEMPORARY DIVERSION

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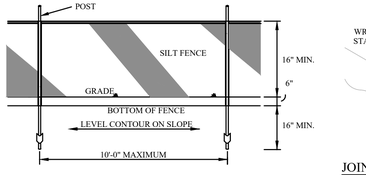

SF SILT FENCE DETAIL

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JOINING SECTIONS OF SILT FENCE DETAIL SF

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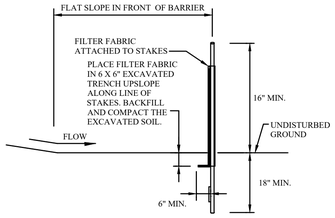

SF SILT FENCE SECTION

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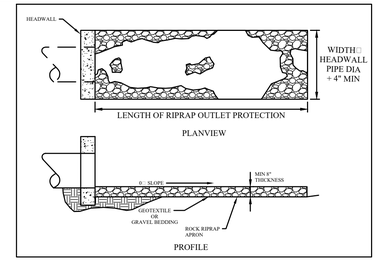
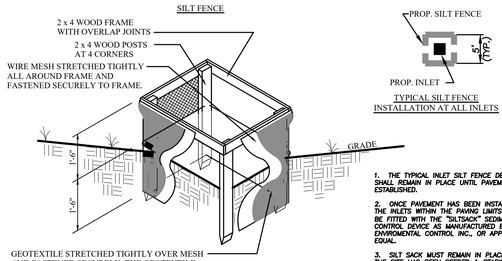


1. SUBGRADE FOR THE FILTER OR BEDDING AND RIPRAP SHALL BE PREPARED TO THE RE□UIRED LINES AND GRADES AS SHOWN ON THE PLAN. THE SUBGRADE SHALL BE CLEARED OF ALL TREES, STUMPS, ROOTS, SOD, LOOSE ROCK, OR OTHER MATERIAL.
2. RIPRAP SHALL CONFORM TO THE GRADING LIMITS AS SHOWN ON THE PLAN.
3. GEOTEXTILE SHALL BE SECURELY ANCHORED ACCORDING TO MANUFACTURERS' RECOMMENDATIONS.
4. GEOTEXTILE SHALL BE LAID WITH THE LONG DIMENSION PARALLEL TO THE DIRECTION OF FLOW AND SHALL BE LAID LOOSELY BUT WITHOUT WRINKLES AND CREASES. WHERE JOINTS ARE NECESSARY, STRIPS SHALL BE PLACED TO PROVIDE A 12-IN. MINIMUM OVERLAP, WITH THE UPSTREAM STRIP OVERLAPPING THE DOWNSTREAM STRIP.
5. GRAVEL BEDDING SHALL BE ODOT NO. 67'S OR 57'S UNLESS SHOWN DIFFERENTLY ON THE DRAWINGS.
6. RIPRAP MAY BE PLACED BY E□UIPMENT BUT SHALL BE PLACED IN A MANNER TO PREVENT SLIPPAGE OR DAMAGE TO THE GEOTEXTILE.
7. RIPRAP SHALL BE PLACED BY A METHOD THAT DOES NOT CAUSE SEGREGATION OF SI□ES. EXTENSIVE PUSHING WITH A DO□ER CAUSES SEGREGATION AND SHALL BE AVOIDED BY DELIVERING RIPRAP NEAR ITS FINAL LOCATION WITHIN THE CHANNEL.
8. CONSTRUCTION SHALL BE SE□UENCED SO THAT OUTLET PROTECTION IS PLACED AND FUNCTIONAL WHEN THE STORM DRAIN, CULVERT, OR OPEN CHANNEL ABOVE IT BECOMES OPERATIONAL.
9. ALL DISTURBED AREAS WILL BE VEGETATED AS SOON AS PRACTICAL.

OP SPECIFICATIONS FOR ROCK OUTLET PROTECTION

REFERENCE ONLY NOT TO SCALE



TYPICAL SILT FENCE INSTALLATION AT ALL INLETS

1. THE TYPICAL INLET SILT FENCE DETAIL SHALL REMAIN IN PLACE UNTIL PAVEMENT IS ESTABLISHED.
2. ONCE PAVEMENT HAS BEEN INSTALLED, THE INLETS WITHIN THE PAVING LIMITS MUST BE FITTED WITH THE "SILTSACK" SEDIMENT CONTROL DEVICE AS MANUFACTURED BY ACF ENVIROMENTAL CONTROL INC., OR APPROVED EQUAL.
3. SILT SACK MUST REMAIN IN PLACE UNTIL THE SITE HAS BEEN SEEDED & STABILIZED.

1. INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UPSLOPE LAND DISTURBANCE BEGINS OR BEFORE THE STORM INLET BECOMES FUNCTIONAL
2. THE EARTH AROUND THE INLET SHALL BE EXCAVATED COMPLETELY TO A DEPTH AT LEAST 18 INCHES.
3. THE WOODEN FRAME SHALL BE CONSTRUCTED OF 2-BY-4-IN. CONSTRUCTION-GRADE LUMBER. THE 2-BY-4-IN. POSTS SHALL BE DRIVEN 1 FT. INTO THE GROUND AT FOUR CORNERS OF THE INLET AND THE TOP PORTION OF 2-BY-4-IN. FRAME ASSEMBLED USING THE OVERLAP JOINT SHOWN. THE TOP OF THE FRAME SHALL BE AT LEAST 6 INCHES BELOW ADJACENT ROADS IF PONDED WATER WOULD POSE A SAFETY HA□ARD TO TRAFFIC.
4. WIRE MESH SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT FABRIC WITH WATER FULLY IMPOUNDED AGAINST IT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY TO THE FRAME.
5. GEOTEXTILE MATERIAL SHALL HAVE AN E□UIVALENT OPENING SI□E OF 20-40- SIEVE AND BE RESISTANT TO SUNLIGHT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY. IT SHALL EXTEND FROM TOP OF THE FRAME TO 18 INCHES BELOW THE INLET NOTCH ELEVATION. THE GEOTEXTILE SHALL OVERLAP ACROSS ON SIDE OF THE INLET SO THE ENDS OF THE CLOTH ARE NOT FASTENED TO THE SAME POST.
6. BACKFILL SHALL BE PLACED AROUND THE INLET IN COMPACTED 6-IN. LAYERS UNTIL THE EARTH IS EVEN WITH NOTCH ELEVATION ON ENDS AND TOP ELEVATION ON SIDES.
7. A COMPACTED EARTH DIKE OR A CHECK DAM SHALL BE CONSTRUCTED IN THE DITCH LINE BELOW THE INLET IF THE INLET IS NOT IN A DEPRESSION AND IF RUNOFF BYPASSING THE INLET WILL NOT FLOW TO A SETTLING POND. THE TOP OF EARTH DIKES SHALL BE AT LEAST 6 INCHES HIGHER THAN THE TOP OF THE FRAME.

MAINTENANCE

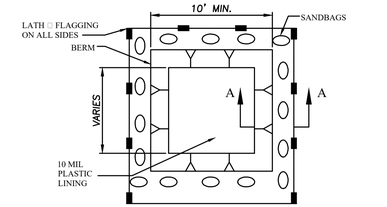
EFFECTIVE STORM DRAIN INLET PROTECTION COLLECTS SEDIMENT AND THEREFORE MUST BE CLEANED REGULARLY TO PREVENT CLOGGING AND SUBSE□UENT FLOODING CONDITIONS, PIPING, OR OVERTOPPING OF THE CONTROL STRUCTURES. SEDIMENT BARRIERS THAT SAG, FALL OVER, OR ARE NOT PROPERLY SECURED, MUST BE PROMPTLY REPAIRED OR REPLACED.

INLET PROTECTION SHALL BE INSPECTED WEEKLY AND AFTER EACH RAINFALL EVENT. AREAS WHERE THERE IS ACTIVE TRAFFIC SHALL BE INSPECTED DAILY. REPAIRS SHALL BE MADE AS NEEDED TO ASSURE THE PRACTICE IS PERFORMING AS INTENDED. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION IS ONE-HALF THE HEIGHT OF THE TRAP. SEDIMENT SHALL NOT BE WASHED INTO THE INLET. SEDIMENT SHALL BE REMOVED AND PLACED IN A LOCATION WHERE IT IS STABLE AND NOT SUBJECT TO EROSION.

ONCE THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILI□ED, ALL FILTER MATERIAL AND COLLECTED SEDIMENT SHALL BE REMOVED AND PROPERLY DISPOSED.

IP SPECIFICATIONS FOR GEOTEXTILE INLET PROTECTION

REFERENCE ONLY NOT TO SCALE



SECTION A-A

CONCRETE WASHOUT SIGN

1. TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE LOCATED A MINIMUM OF 50 FT FROM STORM DRAIN INLETS, OPEN DRAINAGE FACILITIES, AND WATERCOURSES. FACILITY SHALL BE LOCATED AWAY FROM CONSTRUCTION TRAFFIC OR ACCESS AREAS TO PREVENT DISTURBANCE OR TRACKING.
2. TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE CONSTRUCTED AS SHOWN ON THE DETAIL WITH A MINIMUM LENGTH AND MINIMUM WIDTH OF 10'.
3. LATH AND FLAGGING SHALL BE COMMERCIAL TYPE.
4. PLASTIC LINING MATERIAL SHALL BE A MINIMUM OF 10 MIL POLYETHYLENE SHEETING AND SHALL BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.
5. A SIGN SHALL BE INSTALLED ADJACENT TO WASHOUT FACILITY TO INFORM CONCRETE E□UIPMENT OPERATORS TO UTILI□E THE PROPER FACILITIES.
6. TEMPORARY CONCRETE WASHOUT FACILITIES SHALL HAVE A TEMPORARY PIT OR BERMED AREAS OF SUFFICIENT VOLUME TO COMPLETELY CONTAIN ALL LI□UID AND CONCRETE WASTE GENERATED BY WASHOUT PROCEDURES.
7. WASHOUT OF CONCRETE TRUCKS SHALL BE PERFORMED IN DESIGNATED AREAS ONLY.
8. ONLY CONCRETE FROM MIXER TRUCK CHUTES SHOULD BE WASHED INTO CONCRETE WASHOUT.
9. CONCRETE WASHOUT FROM CONCRETE PUMPER BINS CAN BE WASHED INTO CONCRETE PUMPER TRUCKS AND DISCHARGED INTO DESIGNATED WASHOUT AREA OR PROPERLY DISPOSED OF OFFSITE.
10. CONCRETE WASTES SHALL BE ALLOWED TO HARDEN THEN BROKEN UP, REMOVED, AND PROPERLY DISPOSED OF IN ACCORDANCE WITH LOCAL REGULATION ON A REGULAR BASIS.
11. WHEN TEMPORARY WASHOUT FACILITIES ARE NO LONGER RE□UIRED FOR THE WORK, THE HARDENED CONCRETE SHALL BE REMOVED AND DISPOSED OF. MATERIALS USED TO CONSTRUCT THE WASHOUT FACILITIES SHALL BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF.

TCW TEMP. CONCRETE WASHOUT FACILITY

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PNFM
SITE DEVELOPMENT
MACEDONIA, OHIO

Issue Date
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SWP3 DETAILS

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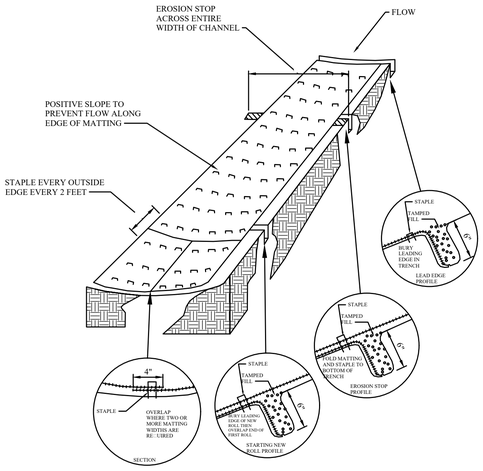


ECM

TEMPORARY ROLLED EROSION CONTROL PRODUCT DETAIL

REFERENCE ONLY NOT TO SCALE

SPECIFICATIONS FOR TEMPORARY ROLLED EROSION CONTROL PRODUCT

1. CHANNEL/SLOPE SOIL PREPARATION GRADE AND COMPACT AREA OF INSTALLATION, PREPARING SEEDBED BY LOOSENING 2"-3" OF TOPSOIL ABOVE FINAL GRADE. INCORPORATE AMENDMENTS SUCH AS LIME AND FERTILIZER INTO SOIL. REMOVE ALL ROCKS, CLODS, VEGETATION OR OTHER DEBRIS SO THAT INSTALLED RECP WILL HAVE DIRECT CONTACT WITH THE SOIL SURFACE.

2. CHANNEL/SLOPE SEEDING APPLY SEED TO SOIL SURFACE PRIOR TO INSTALLATION. ALL CHECK SLOTS, ANCHOR TRENCHES, AND OTHER DISTURBED AREAS MUST BE RESEEDED. REFER TO THE PERMANENT SEEDING SPECIFICATION FOR SEEDING RECOMMENDATIONS.

SLOPE INSTALLATION

3. EXCAVATE TOP AND BOTTOM TRENCHES (12 X6). INTERMITTENT EROSION CHECK SLOTS (6 X6) MAY BE REQUIRED BASED ON SLOPE LENGTH. EXCAVATE TOP ANCHOR TRENCH 2'X3' OVER CREST OF THE SLOPE

4. IF INTERMITTENT EROSION CHECK SLOTS ARE REQUIRED, INSTALL RECP IN 6 X6 SLOT AT A MAXIMUM OF 30' CENTERS OR THE MID POINT OF THE SLOPE. RECP SHOULD BE STAPLED INTO TRENCH ON 12 CENTERS.

5. INSTALL RECP IN TOP ANCHOR TRENCH, ANCHOR ON 12 SPACING, BACKFILL AND COMPACT SOIL.

6. UNROLL RECP DOWN SLOPE WITH ADJACENT ROLLS OVERLAPPED A MINIMUM OF 3 . ANCHOR THE SEAM EVERY 18 . LAY THE RECP LOOSE TO MAINTAIN DIRECT SOIL CONTACT, DO NOT PULL TAUGHT.

7. OVERLAP ROLL ENDS A MINIMUM OF 12 WITH UPSLOPE RECP ON TOP FOR A SHINGLE EFFECT. BEGIN ALL NEW ROLLS IN AN EROSION CHECK SLOT IF REQUIRED. DOUBLE ANCHOR ACROSS ROLL EVERY 12 .

8. INSTALL RECP IN BOTTOM ANCHOR TRENCH (12 X6), ANCHOR EVERY 12 . PLACE ALL OTHER STAPLES THROUGHOUT SLOPE AT 1 TO 2.5 PER SQUARE YARD DEPENDANT ON SLOPE. REFER TO MANUFACTURES ANCHOR GUIDE.

CHANNEL INSTALLATION

9. EXCAVATE INITIAL ANCHOR TRENCH (12 X6) ACROSS THE LOWER END OF THE PROJECT AREA.

10. EXCAVATE INTERMITTENT CHECK SLOTS (6 X6) ACROSS THE CHANNEL AT 30' INTERVALS ALONG THE CHANNEL.

11. EXCAVATE LONGITUDINAL CHANNEL ANCHOR SLOTS (4 X4) ALONG BOTH SIDES OF THE CHANNEL TO BURY THE EDGES. WHENEVER POSSIBLE EXTEND THE RECP 2'-3' ABOVE THE CREST OF CHANNEL SIDE SLOPES.

12. INSTALL RECP IN INITIAL ANCHOR TRENCH (DOWNSTREAM) ANCHOR EVERY 12 , BACKFILL AND COMPACT SOIL.

13. ROLL OUT RECP BEGINNING IN THE CENTER OF THE CHANNEL TOWARD THE INTERMITTENT CHECK SLOT. DO NOT PULL TAUGHT. UNROLL ADJACENT ROLLS UPSTREAM WITH A 3 MINIMUM OVERLAP (ANCHOR EVERY 18) AND UP EACH CHANNEL SIDE SLOPE.

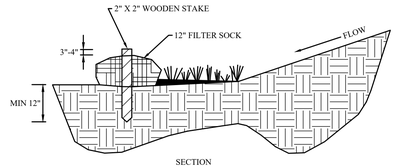
14. AT TOP OF CHANNEL SIDE SLOPES INSTALL RECP IN THE LONGITUDINAL ANCHOR SLOTS, ANCHOR EVERY 18 .

15. INSTALL RECP IN INTERMITTENT CHECK SLOTS. LAY INTO TRENCH AND SECURE WITH ANCHORS EVERY 12 , BACKFILL WITH SOIL AND COMPACT.

16. OVERLAP ROLL ENDS A MINIMUM OF 12 WITH UPSTREAM RECP ON TOP FOR A SHINGLING EFFECT. BEGIN ALL NEW ROLLS IN AN INTERMITTENT CHECK SLOT, DOUBLE ANCHOR EVERY 12 .

17. INSTALL UPSTREAM END IN A TERMINAL ANCHOR TRENCH (12 X6) ANCHOR EVERY 12 , BACKFILL AND COMPACT.

18. COMPLETE ANCHORING THROUGHOUT CHANNEL AT 2.5 PER SQUARE YARD USING SUITABLE GROUND ANCHORING DEVICES (U SHAPED WIRE STAPLES, METAL GEOTEXTILE PINS, PLASTIC STAKES, AND TRIANGULAR WOODEN STAKES). ANCHORS SHOULD BE OF SUFFICIENT LENGTH TO RESIST PULLOUT. LONGER ANCHORS MAY BE REQUIRED IN LOOSE SAND OR GRAVELLY SOILS.



1. MATERIALS-COMPOST USED FOR FILTER SOCKS SHALL BE WEED, PATHOGEN AND INSECT FREE AND FREE OF ANY REFUSE, CONTAMINANTS OR OTHER MATERIALS TOXIC TO PLANT GROWTH. THEY SHALL BE DERIVED FROM A WELL-DECOMPOSED SOURCE OF ORGANIC MATTER AND CONSIST OF PARTICLES RANGING FROM ¾" TO 2"

2. FILTER SOCKS SHALL BE 3 OR 5 MIL CONTINUOUS, TUBULAR, HDPE ¾" KNITTED MESH NETTING MATERIAL, FILLED WITH COMPOST PASSING THE ABOVE SPECIFICATIONS FOR COMPOST PRODUCTS.

INSTALLATION:

3. FILTER SOCKS WILL BE PLACED ON A LEVEL LINE ACROSS SLOPES, GENERALLY PARALLEL TO THE BASE OF THE SLOPE OR OTHER AFFECTED AREA, ON SLOPES APPROACHING 2:1, ADDITIONAL SOCKS SHALL BE PROVIDED AT THE TOP AND AS NEEDED MID-SLOPE.

4. FILTER SOCKS INTENDED TO BE LEFT AS A PERMANENT FILTER OR PART OF THE NATURAL LANDSCAPE SHALL BE SEEDED AT THE TIME OF INSTALLATION FOR ESTABLISHMENT OF PERMANENT VEGETATION.

5. FILTER SOCKS ARE NOT TO BE USED IN CONCENTRATE FLOW SITUATIONS OR IN RUNOFF CHANNELS.

MAINTENANCE:

6. ROUTINELY INSPECT FILER SOCKS AFTER EACH SIGNIFICANT RAIN. MAINTAINING FILTER SOCKS IN A FUNCTIONAL CONDITION AT ALL TIMES.

7. REMOVE SEDIMENTS COLLECTED AT THE BASE OF THE FILTER SOCKS IN A FUNCTIONAL CONDITION AT ALL TIMES.

8. WHERE THE FILTER SOCK DETERIORATES OR FAILS, IT WILL BE REPAIRED OR REPLACED WITH A MORE EFFECTIVE ALTERNATIVE.

9. REMOVAL-FILTER SOCKS WILL BE DISPERSED ON SITE WHEN NO LONGER REQUIRED IN SUCH A WAY AS TO FACILITATE AN NO OBSTRUCT SEEDINGS.

CFS

COMPOST FILTER SOCK DETAIL

REFERENCE ONLY NOT TO SCALE

SPECIFICATIONS FOR DUST CONTROL

ADHESIVES FOR DUST CONTROL			
ADHESIVE	WATER DILUTION (ADHESIVE WATER)	NOZZLE TYPE	APPLICATION RATE GAL./AC.
LATEX EMULSION	12.5:1	FINE	235
TESIN IN WATER ACRYLIC EMULSION (NO-TRAFFIC)	4:1	FINE	300
ACRYLIC EMULSION (NO-TRAFFIC)	7:1	COARSE	450
ACRYLIC EMULSION (TRAFFIC)	3.5:1	COARSE	350

1. VEGETATIVE COVER AND/MULCH- APPLY TEMPORARY OR PERMANENT SEEDING AND MULCH TO AREAS THAT WILL REMAIN IDLE FOR OVER 21 DAYS. SAVING EXISTING TREES AND LARGE SHRUBS WILL ALSO REDUCE SOIL AND AIR MOVEMENT ACROSS DISTURBED AREAS. SEE TEMPORARY SEEDING□ PERMANENT SEEDING□ MULCHING PRACTICES□ AND TREE AND NATURAL AREA PROTECTION PRACTICES.

2. WATERING- SPRAY SITE WITH WATER UNTIL THE SURFACE IS WET BEFORE AND DURING GRADING AND REPEAT AS NEED, ESPECIALLY ON HAUL ROADS AND OTHER HEAVY TRAFFIC ROUTES. WATERING SHALL BE DONE AT A RATE THAT PREVENTS DUST BUT DOES NOT CAUSE SOIL EROSION. WETTING AGENTS SHALL BE UTILIZED ACCORDING TO MANUFACTURERS INSTRUCTIONS.

3. SPRAY-ON ADHESIVES-APPLY ADHESIVE ACCORDING TO THE FOLLOWING TABLE OR MANUFACTURERS' INSTRUCTIONS

4. STONE - GRADED ROADWAYS AND OTHER SUITABLE AREAS WILL BE STABILIZED USING CRUSHED STONE OR COARSE GRAVEL AS SOON AS PRACTICABLE AFTER REACHING AN INTERIM OR FINAL GRADE. CRUSHED STONE OR COARSE GRAVEL CAN BE USED AS A PERMANENT COVER TO PROVIDE CONTROL OF SOIL EMISSIONS.

5. BARRIERS- EXISTING WINDBREAK VEGETATION SHALL BE MARKED AND PRESERVED. SNOW FENCING OR OTHER SUITABLE BARRIER MAY BE PLACED PERPENDICULAR TO PREVAILING AIR CURRENTS AT INTERVALS OF ABOUT 15 TIMES THE BARRIER HEIGHT TO CONTROL AIR CURRENTS AND BLOWING SOIL

6. CALCIUM CHLORIDE - THIS CHEMICAL MAY BE APPLIED BY MECHANICAL SPREADER AS LOOSE, DRY GRANULES OR FLAKES AT A RATE THAT KEEPS THE SURFACE MOIST BUT NOT SO HIGH AS TO CAUSE WATER POLLUTION OR PLANT DAMAGE. APPLICATION RATES SHOULD BE STRICTLY IN ACCORDANCE WITH SUPPLIERS' SPECIFIED RATES.

7. OPERATION AND MAINTENANCE - WHEN TEMPORARY DUST CONTROL MEASURES ARE USED□ REPETITIVE TREATMENT SHOULD BE APPLIED AS NEEDED TO ACCOMPLISH CONTROLS.

STREET CLEANING- PAVED ARES THAT HAVE ACCUMULATED SEDIMENT FROM CONSTRUCTION SHOULD BE CLEANED DAILY, OR AS NEED, UTILIZING A STREET SWEEPER OR BUCKET-TYPE ENDLOADER OR SCRAPER.

SPECIFICATIONS FOR MULCHING

1. MULCH AND OTHER APPROPRIATE VEGETATIVE PRACTICES SHALL BE APPLIED TO DISTURBED AREAS WITHIN 7 DAYS OF GRADING IF THE AREA IS TO REMAIN DORMANT (UNDISTURBED) FOR MORE THAN 21 DAYS OR ON AREAS AND PORTIONS OF THE SITE WHICH CAN BE BROUGHT TO FINAL GRADE.

2. MULCH SHALL CONSIST OF ONE OF THE FOLLOWING:

- STRAW - SHALL BE UNROTTED SMALL GRAIN STRAW APPLIED AT THE RATE OF 2 TONS/AC. OR 90 LB./1,000 SQ. FT. (TWO TO THREE BALES). THE STRAW MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000-SQ.-FT. SECTIONS AND PLACE TWO 45-LB. BALES OF STRAW IN EACH SECTION.
- HYDROSEEDERS - WOOD CELLULOSE FIBER SHOULD BE USED AT 2,000 LB./AC. OR 46 LB./1,000 SQ. FT.
- OTHER - ACCEPTABLE MULCHES INCLUDE MULCH MATTINGS AND ROLLED EROSION CONTROL PRODUCTS APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS OR WOOD MULCHECHIPS APPLIED AT 10-20 TONS/AC.

3. MULCH ANCHORING - MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR RUNOFF. THE FOLLOWING ARE ACCEPTABLE METHODS FOR ANCHORING MULCH:

- MECHANICAL - USE A DISK, CRIMPER, OR SIMILAR TYPE TOOL SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT BE LEFT GENERALLY LONGER THAN 6 INCHES.
- MULCH NETTINGS - USE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, FOLLOWING ALL PLACEMENT AND ANCHORING REQUIREMENTS. USE IN AREAS OF WATER CONCENTRATION AND STEEP SLOPES TO HOLD MULCH IN PLACE.
- SYNTHETIC BINDERS - FOR STRAW MULCH, SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI-TAC), DCA-70, PETROSET, TERRA TACK, OR EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER. ALL APPLICATIONS OF SYNTHETIC BINDERS MUST BE CONDUCTED IN SUCH A MANNER WHERE THERE IS NO CONTACT WITH WATER OF THE STATE.
- WOOD CELLULOSE FIBER - WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. THE FIBER BINDER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 LBS./AC. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LB./100 GAL. OF WOOD CELLULOSE FIBER.

SPECIFICATIONS FOR SODDING

MATERIALS

1. SOD SHALL BE HARVESTED, DELIVERED AND INSTALLED WITHIN A PERIOD OF 48 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD SHALL BE INSPECTED AND APPROVED PRIOR TO INSTALLATION.

2. THE SOD SHALL BE KEPT MOIST AN COVERED DURING HAULING AND PREPARATION FOR PLACEMENT.

3. SOD SHALL BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 0.75 INCHES, PLUS OR MINUS 0.25 INCHES, AT THE TIME OF CUTTING. MEASUREMENTS FOR THICKNESS SHALL EXCLUDE TOP GROWTH AND THATCH.

SITE PREPARATION

1. A SUBSOILER, PLOW OR OTHER IMPLEMENT SHALL BE USED TO REDUCE SOIL COMPACTION AND ALLOW MAXIMUM INFILTRATION. MAXIMIZING INFILTRATION WILL HELP CONTROL BOTH RUNOFF RATE AND WATER QUALITY. SUBSOILING SHALL NOT BE CONDUCTED ON SLIP-PRONE AREAS WHERE SOIL PREPARATION SHOULD BE LIMITED ONLY TO WHAT IS NECESSARY FOR ESTABLISHING VEGETATION.

2. THE AREA SHALL BE GRADED AND TOPSOIL SPREAD WHERE NEEDED.

3. SOIL AMENDMENTS

LIME- AGRICULTURAL GROUND LIMESTONE SHALL BE APPLIED TO ACIDIC SOILS AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A SOIL TEST, LIME SHALL BE APPLIED AT THE RATE OF 100 LB./1,000 SQ. FT OR 2 TONS/AC.

FERTILIZER- FERTILIZER SHALL BE APPLIED AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A 2 SOIL TEST FERTILIZER SHALL BE APPLIED AT A RATE OF 12 LB./1,000 SQ. FT OR 500 LB./AC. OF 10-10-10 OR 12-12-12 ANALYSIS

THE LIME AND FERTILIZER SHALL BE WORKED INTO THE SOIL WITH A DISK HARROW, SPRING-TOOTH HARROW, OR OTHER SUITABLE FIELD IMPLEMENT TO A DEPTH OF 3 INCHES.

4. BEFORE LAYING SOD, THE SURFACE SHALL BE UNIFORMLY GRADED AND CLEARED OF ALL DEBRIS, STONES AND CLODS LARGER THAN 3-IN. DIAMETER.

SOD INSTALLATION

1. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURES, THE SOIL SHALL BE LIGHTLY IRRIGATED IMMEDIATELY BEFORE LAYING THE SOD.

2. SOD SHALL NOT BE PLACED ON FROZEN SOIL.

3. THE FIRST ROW OF SOD SHALL BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND TIGHTLY WEDGED AGAINST EACH OTHER. LATERAL JOINTS SHALL BE STAGGERED IN A BRICK-LIKE PATTERN. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS THAT WOULD DRY THE ROOTS.

4. ON SLOPING AREAS WHERE EROSION MAY BE A PROBLEM, SOD SHALL BE LAID WITH THE LONG EDGE PARALLEL TO THE CONTOUR AND STAGGERED JOINTS. THE SOD SHALL BE SECURED WITH PEGS OR STAPLES.

5. AS SODDING IS COMPLETED IN ANY ONE SECTION, THE ENTIRE AREA SHALL BE ROLLED OR TAMPED TO ENSURE SOLID CONTACT OF ROOTS WITH THE SOIL SURFACE. SOD SHALL BE WATERED IMMEDIATELY AFTER ROLLING OR TAMPING UNTIL THE SOD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. THE OPERATIONS OF LAYING TAMPING AND IRRIGATING FOR ANY PIECE OF SOD SHALL BE COMPLETED WITHIN 8 HOURS.

MAINTENANCE

1. IN THE ABSENCE OF ADEQUATE RAINFALL, WATERING SHALL BE PERFORMED DAILY OR AS OFTEN AS NECESSARY DURING THE FIRST WEEK WITH SUFFICIENT QUANTITIES TO MAINTAIN MOIST SOIL TO A DEPTH OF 4-6 INCHES.

2. AFTER THE FIRST WEEK, SOD SHALL BE WATERED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE AND ENSURE ESTABLISHMENT.

3. THE FIRST MOWING SHALL NOT BE ATTEMPTED UNTIL SOD IS FIRMLY ROOTED.

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Storm Water Management Report

FOR

PNFM

Valley View Rd.
Macedonia, Ohio 44056

PREPARED FOR

GEIS CONSTRUCTION

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WES Job No.: 2024-317 **Date: 03-28-2025**

PROJECT DESCRIPTION AND DESIGN CRITERIA

The storm water management basin for PNFM has been designed based on the City of Macedonia storm water management requirements whereas the critical storm and all more frequent storm events shall be constrained to the 1-year pre-developed runoff rate and all less frequent post-developed events shall be restricted to the correlating pre-developed runoff rates. The existing site consists of existing commercial buildings with related paved and gravel parking areas. Runoff discharges via overland flow and on-site storm sewers before ultimately reaching an unnamed tributary to Brandywine Creek.

Due to the site's pre-developed impervious coverage of 18.41 acres (10-yr average), the proposed improvements are regarded as primarily re-development. The proposed north retention basin has been designed to improve downstream conditions by meeting the previously mentioned critical storm requirements as well as water quality regulations per the Ohio Permit No. OHC000006. The basin proposed to the south is for aesthetic purposes and provides minimal water quality and quantity control.

The north basin design has been limited to 5.05 acres of impervious area within the 8.86-acre drainage area. The remainder of on-site runoff is observed as undetained.

The pre-developed drainage areas for the PNFM site:

-The pre-developed drainage area (listed as subcatchment 1S), is 24.88 Acres
(CN=90 & Tc=11.2 min.).

The post developed drainage areas for the PNFM site:

-The post-developed drainage area to the north basin (listed as subcatchment 2S), is 8.86 Acres
(CN=91 & Tc=10 min.).

-The post-developed undetained drainage area (listed as subcatchment 3S), is 16.97 Acres
(CN=90 & Tc=10 min.).

STORM ROUTING

HydroCAD Stormwater Modeling was used to perform the storm routing and the pond calculations. The increase in runoff from the pre-developed to the post developed conditions is addressed through the use of a northerly storm water retention basin.

STORM WATER QUALITY

Water Quality (WQ) will be addressed by means of a SWM Basin (north) fit with the appropriate WQ orifice. The WQ orifice will account for the drainage area and storage volume for the basin.

ROUTING THROUGH THE PROPOSED NORTH STORMWATER MANAGEMENT BASIN

The following table is a summary of the storm routing for the proposed site.

Storm Event	Pre-Developed Runoff from site, 1S c.f.s.	Allowable Outflow c.f.s.	Post-Developed Runoff to North Basin, 2S c.f.s.	Post-Developed Outflow from SWM Basin, 1P c.f.s.	Combined Outflow (Includes Undetained Runoff), 1L c.f.s.	Peak Elevation	Peak Storage, c.f.
1	41.06	**41.06**	16.14	2.34	**29.41**	997.07	19,674
2	53.54	**53.54**	20.81	8.21	**38.30**	997.32	22,251
5	72.23	**72.23**	27.76	18.52	**63.91**	997.64	25,651
10	87.84	**87.84**	33.54	26.12	**84.37**	997.83	27,834
25	110.47	**110.47**	41.90	34.34	**109.88**	998.05	30,483
50	129.22	**129.22**	48.81	39.36	**128.00**	998.24	32,745
100	149.49	**149.49**	56.29	42.21	**146.44**	998.47	35,641

The following table summarizes the new stormwater quality basin design information for the proposed on-site north basin:

North Stormwater Quality Basin

Top of Bank Elevation	999.50
Emergency Spillway Elevation	998.50
100 Year high water elevation	998.47
Top of Structure Elevation	998.40
Inv. 2.5” Water Quality Orifice Elevation	994.50
Water Quality Elevation	996.73
(3) 36.0”Wx12.0”H Windows Elevation	996.90
Inv. Outlet Storm Sewer (36”)	994.50
Bottom of SWM Basin	987.00

Emergency Spillway Calculation:

$$Q = CLH^{3/2}$$

C = 2.62 100-yr inflow = 56.29 c.f.s.

$$Q = 2.62(30ft)(1ft)^{3/2} = 78.6 \text{ c.f.s.} > 56.29 \text{ c.f.s.}$$

CRITICAL STORM CALCULATIONS

FOR

PNFM

Volume of Runoff from 1 Year – 24 hr Storm

Pre-Developed = 101,118 CF

Post-Developed to North Basin = 38,269 CF

Post-Developed (Undetained) = 68,970 CF

$$\frac{\text{Post-Developed Total} - \text{Pre-Developed Total}}{\text{Pre-Developed Total}} \times 100 =$$

$$\frac{(38{,}269 + 68{,}970) - 101{,}118}{101{,}118} \times 100\% = 6.0\%$$

The **Critical Storm Event** for Discharge Limitation for increase in volume less than 10% is the **1 Year Storm.**

DRAINAGE MAPS

2015

2017

2019

10-YR AVERAGE PRE-DEVELOPED LAND COVER

YEAR RANGE	IMPERVIOUS AREA WITHIN DRAINAGE AREA
2015 - 2016:	15.56 AC.
2017 - 2018:	16.82 AC.
2019 - 2024:	19.89 AC.

WEIGHTED AVERAGE = (2/10)(15.56 AC.) + (2/10)(16.82 AC.) + (6/10)(19.89 AC.) = 18.41 AC. IMPERVIOUS

N

GRAPHIC SCALE

300 0 150 300 600

(IN FEET)
1 inch = 300 ft.

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PNFM
PRELIMINARY SITE PLAN
MACEDONIA, OHIO

Issue Date
02-21-2025
03-17-2025
03-28-2025

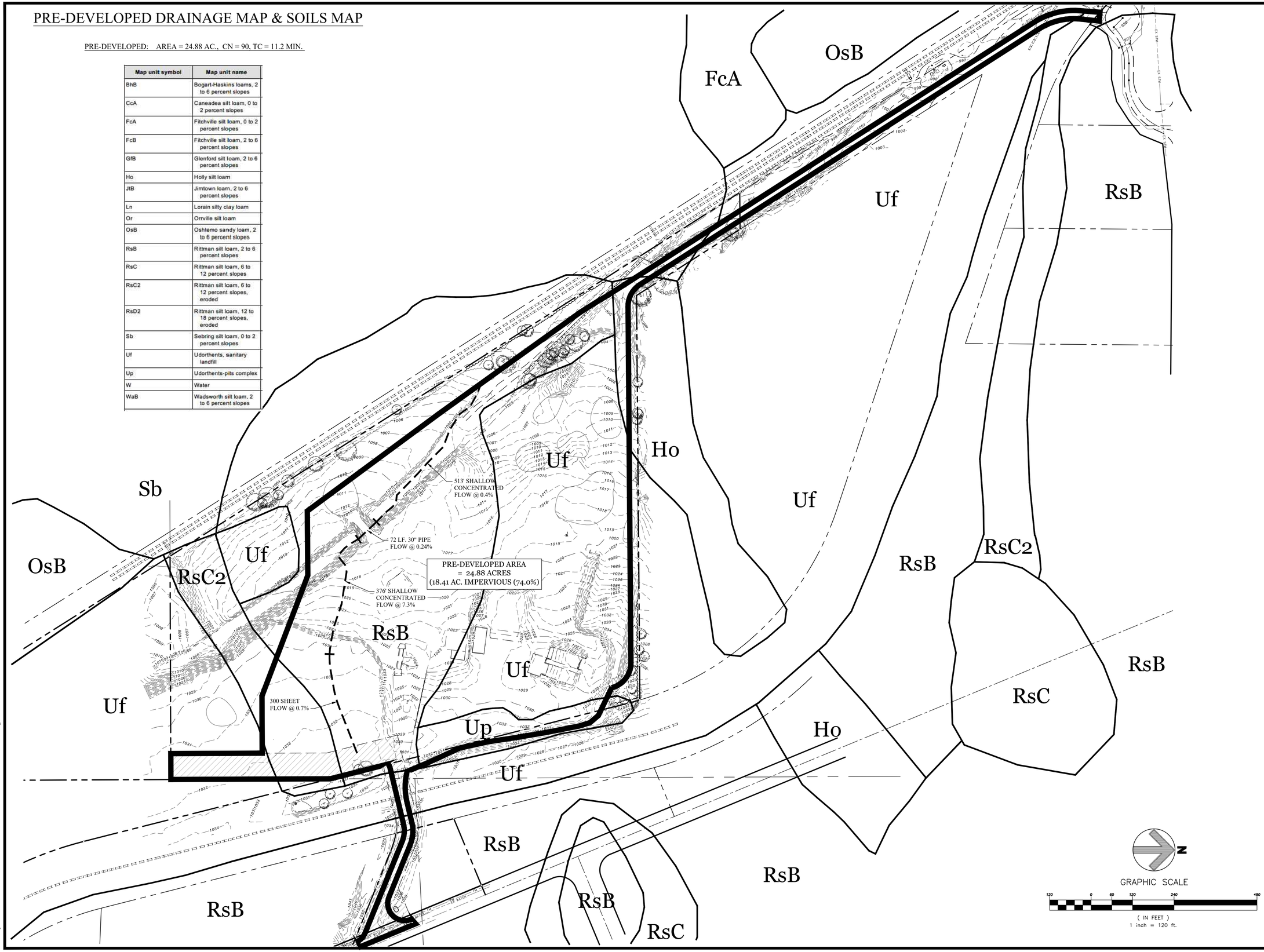
SWP3 DETAILS

C107
Project No. 2024-317

PRE-DEVELOPED DRAINAGE MAP & SOILS MAP

PRE-DEVELOPED: AREA = 24.88 AC., CN = 90, TC = 11.2 MIN.

Map unit symbol	Map unit name
BhB	Bogart-Haskins loams, 2 to 6 percent slopes
CcA	Caneadea silt loam, 0 to 2 percent slopes
FcA	Fitchville silt loam, 0 to 2 percent slopes
FcB	Fitchville silt loam, 2 to 6 percent slopes
GfB	Glenford silt loam, 2 to 6 percent slopes
Ho	Holly silt loam
JtB	Jimtown loam, 2 to 6 percent slopes
Ln	Lorain silty clay loam
Or	Orrville silt loam
OsB	Oshtemo sandy loam, 2 to 6 percent slopes
RsB	Rittman silt loam, 2 to 6 percent slopes
RsC	Rittman silt loam, 6 to 12 percent slopes
RsC2	Rittman silt loam, 6 to 12 percent slopes, eroded
RsD2	Rittman silt loam, 12 to 18 percent slopes, eroded
Sb	Sebring silt loam, 0 to 2 percent slopes
Uf	Udorthents, sanitary landfill
Up	Udorthents-pits complex
W	Water
WaB	Wadsworth silt loam, 2 to 6 percent slopes



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SWP3 DETAILS

C107A
Project No. 2024-317

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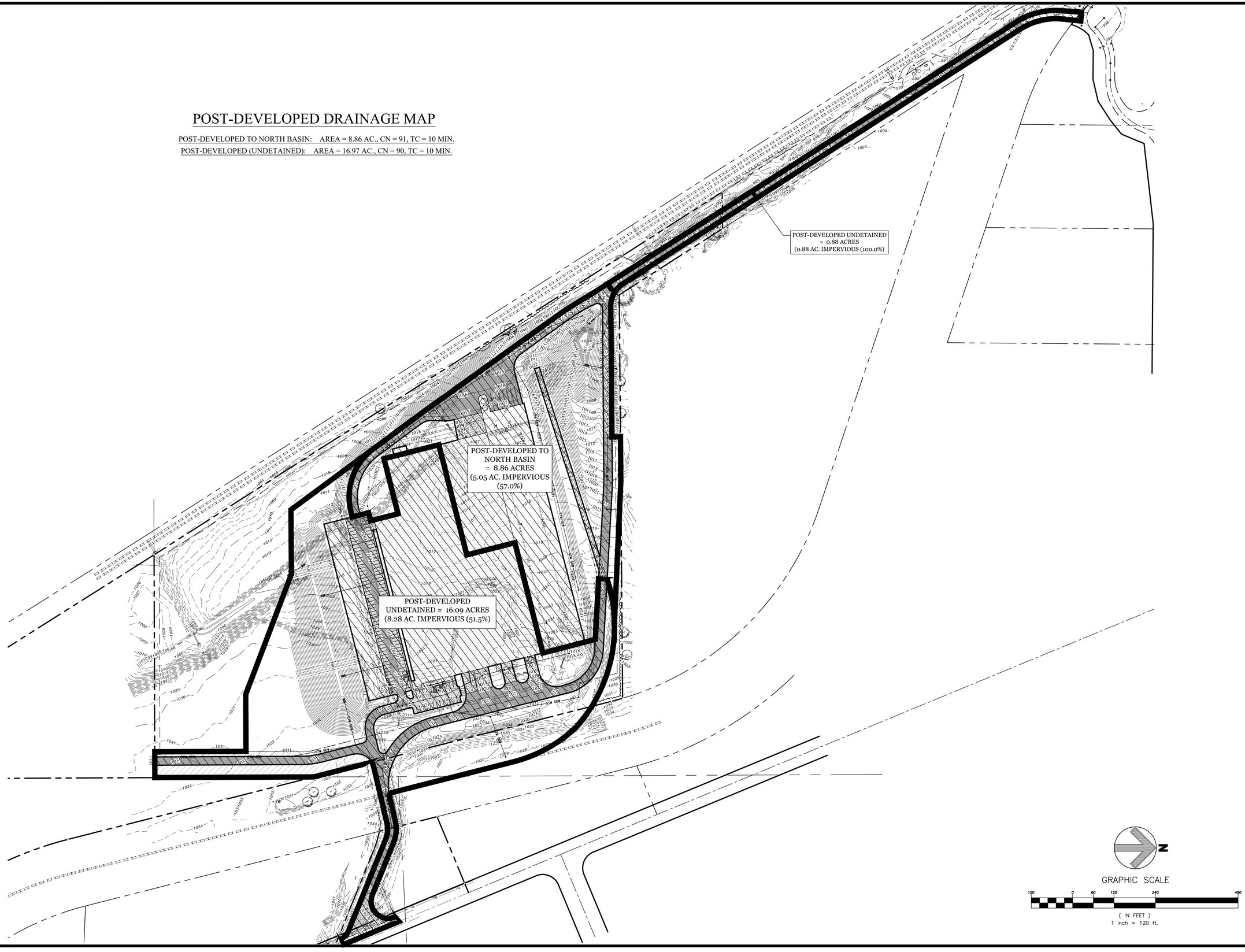
POST-DEVELOPED DRAINAGE MAP

POST-DEVELOPED TO NORTH BASIN: AREA = 8.86 AC., CN = 91, TC = 10 MIN.
POST-DEVELOPED (UNDETAINED): AREA = 16.97 AC., CN = 90, TC = 10 MIN.



N

GRAPHIC SCALE

120 0 60 120 240 480

(IN FEET)
1 inch = 120 ft.

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Project No. 2024-317

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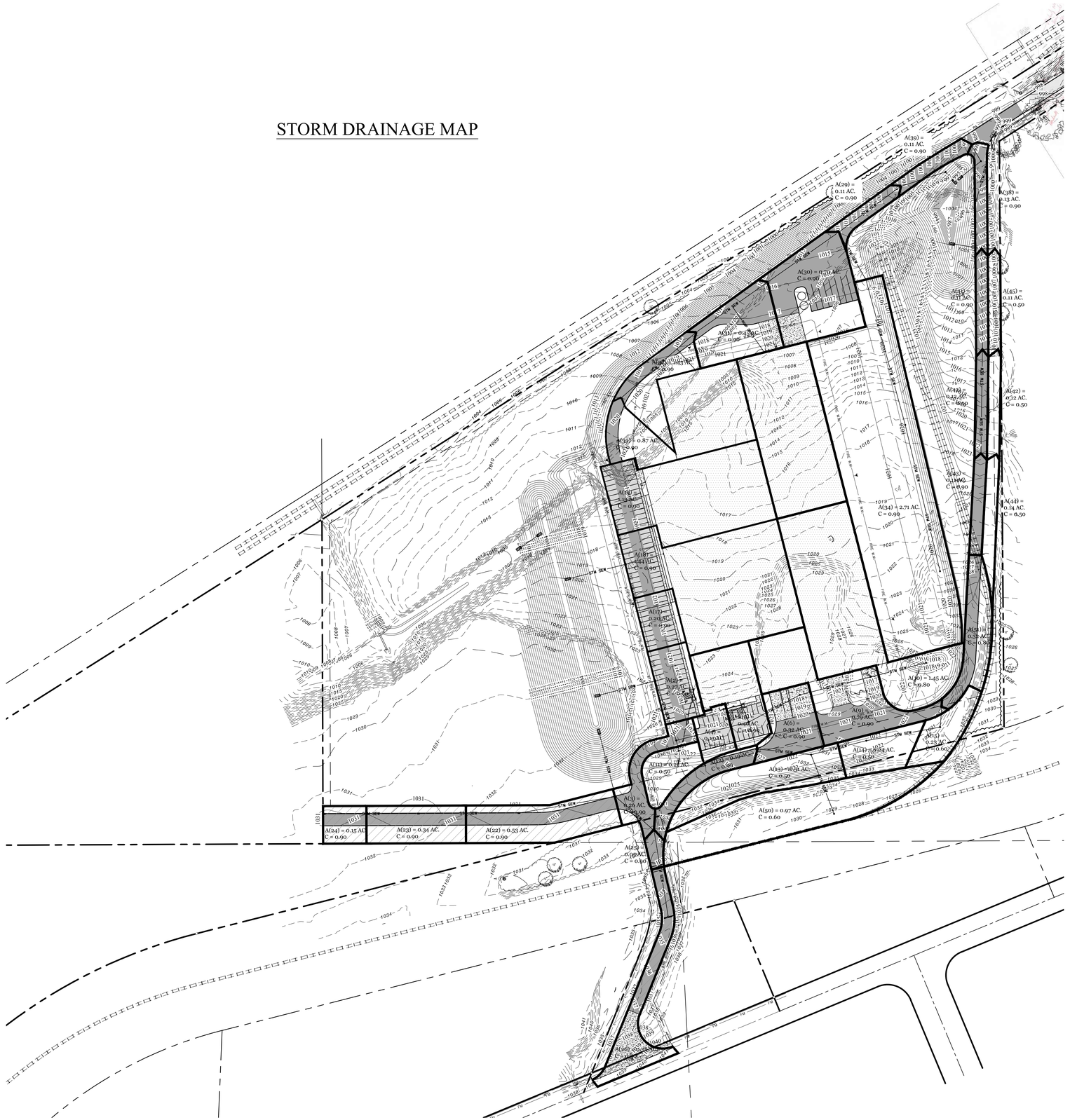
STORM DRAINAGE MAP



STORM SEWER CALCULATIONS (10-YR)

Storm Sewer Tabulation

Page 1

Station Line	To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
1	End	128.992	0.01	1.46	0.01	0.00	1.31	10.0	15.9	4.0	5.19	14.37	4.78	15	6.59	1013.00	1021.50	1014.25	1022.42	1016.34	1032.00	ST-19
2	1	102.720	0.05	0.43	0.90	0.05	0.39	10.0	11.3	4.7	1.81	7.76	3.56	12	6.33	1021.75	1028.25	1022.42	1028.82	1032.00	1034.00	ST-23
3	2	173.990	0.38	0.38	0.90	0.34	0.34	10.0	10.0	4.9	1.69	3.10	3.72	12	1.01	1028.25	1030.00	1028.82	1030.55	1034.00	1034.00	ST-24
4	1	194.881	0.53	1.02	0.90	0.48	0.92	10.0	14.9	4.1	3.76	4.30	3.93	15	0.59	1021.50	1022.65	1022.42	1023.55	1032.00	1030.00	ST-20
5	4	200.323	0.34	0.49	0.90	0.31	0.44	10.0	13.7	4.3	1.89	2.29	3.25	12	0.55	1022.90	1024.00	1023.60	1024.69	1030.00	1030.00	ST-21
6	5	187.492	0.15	0.15	0.90	0.14	0.14	10.0	10.0	4.9	0.67	2.25	1.94	12	0.53	1024.00	1025.00	1024.72	1025.35	1030.00	1030.00	ST-22
7	End	114.500	0.27	6.37	0.90	0.24	4.81	10.0	14.0	4.2	20.38	41.84	3.06	36	0.52	1008.00	1008.60	1011.00	1011.11	1016.60	1020.00	ST-1
8	7	125.841	0.26	6.10	0.90	0.23	4.57	10.0	13.5	4.3	19.71	25.55	4.74	30	0.52	1009.10	1009.75	1011.27	1011.58	1020.00	1020.00	ST-2
9	8	76.910	0.15	5.63	0.90	0.14	4.23	10.0	13.1	4.4	18.47	25.63	4.21	30	0.52	1009.75	1010.15	1011.99	1012.13	1020.00	1020.60	ST-3
10	9	72.311	0.46	5.48	0.90	0.41	4.10	10.0	12.8	4.4	18.09	24.73	4.47	30	0.48	1010.15	1010.50	1012.18	1012.33	1020.60	1020.60	ST-4
11	10	55.521	0.19	2.46	0.90	0.17	1.52	10.0	12.6	4.5	6.78	9.85	5.69	18	1.17	1014.45	1015.10	1015.37	1016.11	1020.60	1021.75	ST-11
12	11	109.600	0.51	2.27	0.50	0.25	1.35	10.0	12.1	4.5	6.14	9.32	5.01	18	1.05	1015.10	1016.25	1016.11	1017.21	1021.75	1021.00	ST-12
13	12	126.488	0.97	0.97	0.60	0.58	0.58	10.0	10.0	4.9	2.87	6.86	6.46	12	4.94	1016.75	1023.00	1017.21	1023.73	1021.00	1027.00	ST-15
14	12	113.569	0.24	0.79	0.50	0.12	0.51	10.0	11.4	4.7	2.39	2.67	3.84	12	0.75	1016.75	1017.60	1017.49	1018.34	1021.00	1021.00	ST-13
15	14	149.690	0.23	0.55	0.60	0.14	0.39	10.0	10.4	4.8	1.91	2.65	3.44	12	0.73	1017.60	1018.70	1018.37	1019.29	1021.00	1024.00	ST-14
16	15	41.504	0.32	0.32	0.80	0.26	0.26	10.0	10.0	4.9	1.26	2.62	2.23	12	0.72	1018.70	1019.00	1019.53	1019.59	1024.00	1023.00	ST-43
17	8	21.446	0.21	0.21	0.50	0.11	0.11	10.0	10.0	4.9	0.52	3.33	2.86	12	1.17	1015.75	1016.00	1016.02	1016.30	1020.00	1020.00	ST-10
18	10	115.358	0.32	2.56	0.90	0.29	2.16	10.0	11.9	4.6	9.88	14.14	3.97	24	0.52	1011.00	1011.60	1012.67	1012.94	1020.60	1017.55	ST-5
19	18	145.624	0.79	2.24	0.90	0.71	1.87	10.0	11.0	4.7	8.85	14.53	4.39	24	0.55	1011.60	1012.40	1013.02	1013.49	1017.55	1017.55	ST-6
20	19	113.535	1.45	1.45	0.80	1.16	1.16	10.0	10.0	4.9	5.73	14.25	3.79	24	0.53	1012.40	1013.00	1013.55	1013.85	1017.55	1017.50	ST-9
21	End	22.187	0.01	6.28	0.01	0.00	5.64	10.0	13.3	4.3	24.47	29.43	8.10	24	2.25	994.50	995.00	996.50	996.75	1001.58	1000.00	ST-25
22	21	94.604	0.11	6.27	0.90	0.10	5.64	10.0	13.1	4.4	24.65	51.38	8.46	24	6.87	995.00	1001.50	996.75	1003.25	1000.00	1006.50	ST-26

Project File: 2024-317 Storm 01B.stm | Number of lines: 39 | Run Date: 3/28/2025

NOTES:Intensity = 48.57 / (Inlet time + 8.50) ^ 0.78; Return period =Yrs. 10 ; c = cir e = ellip b = box

Storm Sewers v2022.00

Storm Sewer Tabulation

Page 2

Station Line	To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
23	22	153.060	0.70	6.16	0.90	0.63	5.54	10.0	12.8	4.4	24.51	43.39	8.41	24	4.90	1001.50	1009.00	1003.25	1010.75	1006.50	1014.00	ST-27
24	23	109.122	2.71	2.71	0.90	2.44	2.44	10.0	10.0	4.9	12.04	15.09	7.50	18	2.75	1009.50	1012.50	1010.75	1013.82	1014.00	1016.60	ST-31
25	23	174.288	0.45	2.75	0.90	0.41	2.48	10.0	12.0	4.6	11.28	19.64	4.79	24	1.00	1009.00	1010.75	1010.75	1011.95	1014.00	1015.75	ST-28
26	25	174.288	1.43	2.30	0.90	1.29	2.07	10.0	11.0	4.7	9.79	19.64	5.19	24	1.00	1010.75	1012.50	1011.95	1013.62	1015.75	1017.50	ST-29
27	26	197.877	0.87	0.87	0.90	0.78	0.78	10.0	10.0	4.9	3.87	5.63	4.82	15	1.01	1013.25	1015.25	1014.01	1016.04	1017.50	1019.50	ST-30
28	End	114.500	1.44	2.77	0.90	1.30	2.49	10.0	14.0	4.2	10.57	21.35	6.35	18	5.50	1008.00	1014.30	1010.00	1015.55	1018.98	1020.00	ST-16
29	28	120.000	1.13	1.13	0.90	1.02	1.02	10.0	10.0	4.9	5.02	9.10	3.99	18	1.00	1014.30	1015.50	1015.55	1016.36	1020.00	1020.00	ST-18
30	28	120.000	0.20	0.20	0.90	0.18	0.18	10.0	10.0	4.9	0.89	9.10	1.70	18	1.00	1014.30	1015.50	1015.55	1015.85	1020.00	1020.00	ST-17
31	End	55.746	0.11	0.71	0.90	0.10	0.49	10.0	16.1	3.9	1.94	9.61	3.23	12	9.69	994.50	999.90	995.50	1000.49	1000.55	1004.10	ST-36
32	31	200.728	0.12	0.49	0.90	0.11	0.34	10.0	14.5	4.2	1.40	5.38	3.23	12	3.04	999.90	1006.00	1000.49	1006.50	1004.10	1012.90	ST-37
33	32	207.463	0.11	0.25	0.90	0.10	0.17	10.0	11.2	4.7	0.80	5.03	2.50	12	2.65	1006.00	1011.50	1006.50	1011.87	1012.90	1022.00	ST-38
34	33	31.010	0.14	0.14	0.50	0.07	0.07	10.0	10.0	4.9	0.35	3.92	1.82	12	1.61	1011.50	1012.00	1011.87	1012.24	1022.00	1015.50	ST-39
35	32	31.458	0.12	0.12	0.50	0.06	0.06	10.0	10.0	4.9	0.30	3.89	1.50	12	1.59	1006.00	1006.50	1006.50	1006.72	1012.90	1010.10	ST-44
36	31	26.754	0.11	0.11	0.50	0.05	0.06	10.0	10.0	4.9	0.27	4.22	1.38	12	1.87	999.90	1000.40	1000.49	1000.61	1004.10	1004.40	ST-40
37	End	40.472	16.09	16.09	0.80	12.87	12.87	10.0	10.0	4.9	63.55	90.86	9.44	36	2.47	1007.00	1008.00	1010.00	1010.56	1010.60	1011.60	ST-7
38	End	48.528	0.13	0.24	0.90	0.12	0.22	10.0	11.0	4.7	1.02	2.22	1.41	12	0.52	994.50	994.75	995.50	995.55	997.55	997.50	ST-34
39	38	39.000	0.11	0.11	0.90	0.10	0.10	10.0	10.0	4.9	0.49	2.47	0.86	12	0.64	994.75	995.00	995.58	995.59	997.50	998.50	ST-35

Project File: 2024-317 Storm 01B.stm | Number of lines: 39 | Run Date: 3/28/2025

NOTES:Intensity = 48.57 / (Inlet time + 8.50) ^ 0.78; Return period =Yrs. 10 ; c = cir e = ellip b = box

Storm Sewers v2022.00

N

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

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SWP3 DETAILS

C107C
Project No. 2024-317

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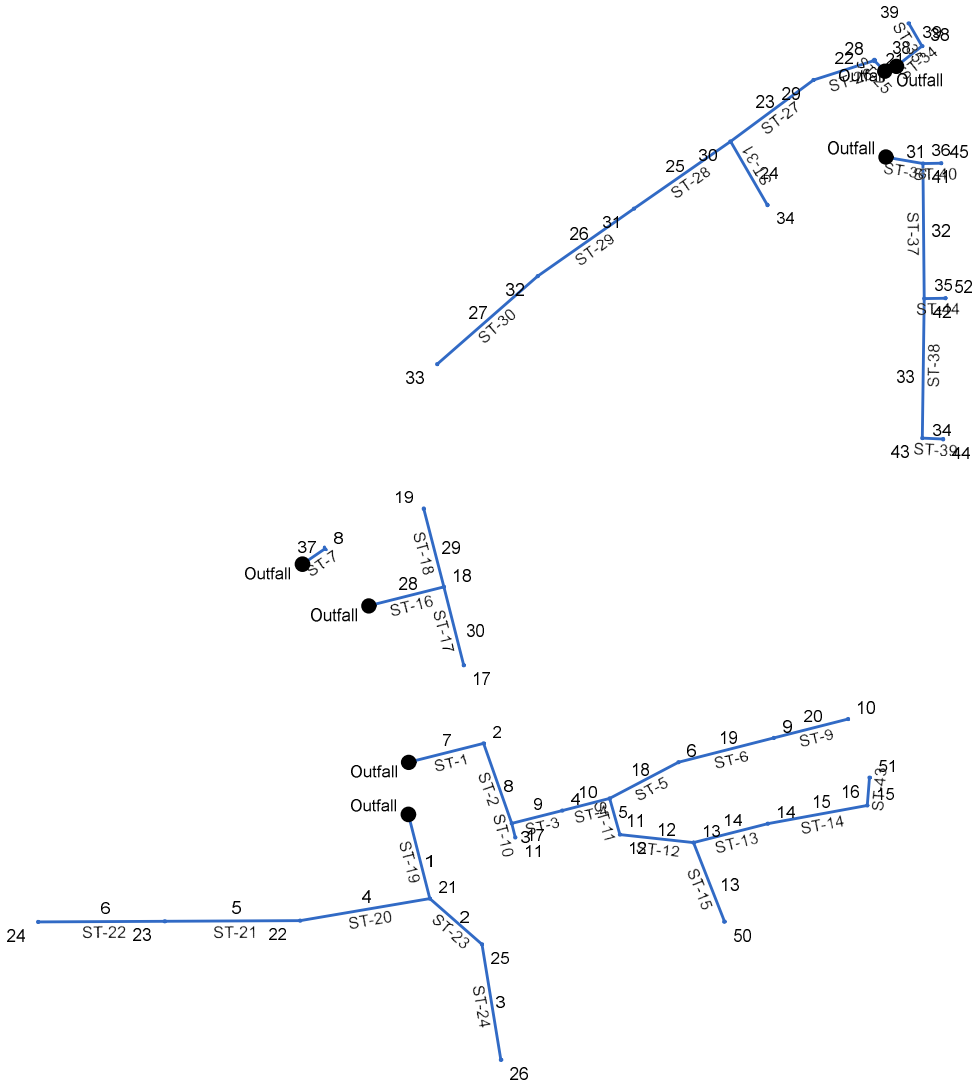
STORM SEWER CALCULATIONS 10-YR

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Project File: 2024-317 Storm 01B.stm	Number of lines: 39	Date: 3/28/2025

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	128.992	0.01	1.46	0.01	0.00	1.31	10.0	15.9	4.0	5.19	14.37	4.78	15	6.59	1013.00	1021.50	1014.25	1022.42	1016.34	1032.00	ST-19
2	1	102.720	0.05	0.43	0.90	0.05	0.39	10.0	11.3	4.7	1.81	7.76	3.56	12	6.33	1021.75	1028.25	1022.42	1028.82	1032.00	1034.00	ST-23
3	2	173.990	0.38	0.38	0.90	0.34	0.34	10.0	10.0	4.9	1.69	3.10	3.72	12	1.01	1028.25	1030.00	1028.82	1030.55	1034.00	1034.00	ST-24
4	1	194.881	0.53	1.02	0.90	0.48	0.92	10.0	14.9	4.1	3.76	4.30	3.93	15	0.59	1021.50	1022.65	1022.42	1023.55	1032.00	1030.00	ST-20
5	4	200.323	0.34	0.49	0.90	0.31	0.44	10.0	13.7	4.3	1.89	2.29	3.25	12	0.55	1022.90	1024.00	1023.60	1024.69	1030.00	1030.00	ST-21
6	5	187.492	0.15	0.15	0.90	0.14	0.14	10.0	10.0	4.9	0.67	2.25	1.94	12	0.53	1024.00	1025.00	1024.72	1025.35	1030.00	1030.00	ST-22
7	End	114.500	0.27	6.37	0.90	0.24	4.81	10.0	14.0	4.2	20.38	41.84	3.06	36	0.52	1008.00	1008.60	1011.00	1011.11	1016.60	1020.00	ST-1
8	7	125.841	0.26	6.10	0.90	0.23	4.57	10.0	13.5	4.3	19.71	25.55	4.74	30	0.52	1009.10	1009.75	1011.27	1011.58	1020.00	1020.00	ST-2
9	8	76.910	0.15	5.63	0.90	0.14	4.23	10.0	13.1	4.4	18.47	25.63	4.21	30	0.52	1009.75	1010.15	1011.99	1012.13	1020.00	1020.60	ST-3
10	9	72.311	0.46	5.48	0.90	0.41	4.10	10.0	12.8	4.4	18.09	24.73	4.47	30	0.48	1010.15	1010.50	1012.18	1012.33	1020.60	1020.60	ST-4
11	10	55.521	0.19	2.46	0.90	0.17	1.52	10.0	12.6	4.5	6.78	9.85	5.69	18	1.17	1014.45	1015.10	1015.37	1016.11	1020.60	1021.75	ST-11
12	11	109.605	0.51	2.27	0.50	0.26	1.35	10.0	12.1	4.5	6.14	9.32	5.01	18	1.05	1015.10	1016.25	1016.11	1017.21	1021.75	1021.00	ST-12
13	12	126.488	0.97	0.97	0.60	0.58	0.58	10.0	10.0	4.9	2.87	6.86	6.46	12	4.94	1016.75	1023.00	1017.21	1023.73	1021.00	1027.00	ST-15
14	12	113.565	0.24	0.79	0.50	0.12	0.51	10.0	11.4	4.7	2.39	2.67	3.84	12	0.75	1016.75	1017.60	1017.49	1018.34	1021.00	1021.00	ST-13
15	14	149.690	0.23	0.55	0.60	0.14	0.39	10.0	10.4	4.8	1.91	2.65	3.44	12	0.73	1017.60	1018.70	1018.37	1019.29	1021.00	1024.00	ST-14
16	15	41.504	0.32	0.32	0.80	0.26	0.26	10.0	10.0	4.9	1.26	2.62	2.23	12	0.72	1018.70	1019.00	1019.53	1019.59	1024.00	1023.00	ST-43
17	8	21.446	0.21	0.21	0.50	0.11	0.11	10.0	10.0	4.9	0.52	3.33	2.86	12	1.17	1015.75	1016.00	1016.02	1016.30	1020.00	1020.00	ST-10
18	10	115.358	0.32	2.56	0.90	0.29	2.16	10.0	11.9	4.6	9.88	14.14	3.97	24	0.52	1011.00	1011.60	1012.67	1012.94	1020.60	1017.55	ST-5
19	18	145.624	0.79	2.24	0.90	0.71	1.87	10.0	11.0	4.7	8.85	14.53	4.39	24	0.55	1011.60	1012.40	1013.02	1013.49	1017.55	1017.55	ST-6
20	19	113.535	1.45	1.45	0.80	1.16	1.16	10.0	10.0	4.9	5.73	14.25	3.79	24	0.53	1012.40	1013.00	1013.55	1013.85	1017.55	1017.50	ST-9
21	End	22.187	0.01	6.28	0.01	0.00	5.64	10.0	13.3	4.3	24.47	29.43	8.10	24	2.25	994.50	995.00	996.50	996.75	1001.58	1000.00	ST-25
22	21	94.604	0.11	6.27	0.90	0.10	5.64	10.0	13.1	4.4	24.65	51.38	8.46	24	6.87	995.00	1001.50	996.75	1003.25	1000.00	1006.50	ST-26

Project File: 2024-317 Storm 01B.stm | Number of lines: 39 | Run Date: 3/28/2025

NOTES:Intensity = 48.57 / (Inlet time + 8.50) ^ 0.78; Return period =Yrs. 10 ; c = cir e = ellip b = box

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
23	22	153.060	0.70	6.16	0.90	0.63	5.54	10.0	12.8	4.4	24.51	43.39	8.41	24	4.90	1001.50	1009.00	1003.25	1010.75	1006.50	1014.00	ST-27
24	23	109.122	2.71	2.71	0.90	2.44	2.44	10.0	10.0	4.9	12.04	15.09	7.50	18	2.75	1009.50	1012.50	1010.75	1013.82	1014.00	1016.60	ST-31
25	23	174.288	0.45	2.75	0.90	0.41	2.48	10.0	12.0	4.6	11.28	19.64	4.79	24	1.00	1009.00	1010.75	1010.75	1011.95	1014.00	1015.75	ST-28
26	25	174.288	1.43	2.30	0.90	1.29	2.07	10.0	11.0	4.7	9.79	19.64	5.19	24	1.00	1010.75	1012.50	1011.95	1013.62	1015.75	1017.50	ST-29
27	26	197.877	0.87	0.87	0.90	0.78	0.78	10.0	10.0	4.9	3.87	5.63	4.82	15	1.01	1013.25	1015.25	1014.01	1016.04	1017.50	1019.50	ST-30
28	End	114.500	1.44	2.77	0.90	1.30	2.49	10.0	14.0	4.2	10.57	21.35	6.35	18	5.50	1008.00	1014.30	1010.00	1015.55	1018.98	1020.00	ST-16
29	28	120.000	1.13	1.13	0.90	1.02	1.02	10.0	10.0	4.9	5.02	9.10	3.99	18	1.00	1014.30	1015.50	1015.55	1016.36	1020.00	1020.00	ST-18
30	28	120.000	0.20	0.20	0.90	0.18	0.18	10.0	10.0	4.9	0.89	9.10	1.70	18	1.00	1014.30	1015.50	1015.55	1015.85	1020.00	1020.00	ST-17
31	End	55.746	0.11	0.71	0.90	0.10	0.49	10.0	16.1	3.9	1.94	9.61	3.23	12	9.69	994.50	999.90	995.50	1000.49	1000.55	1004.10	ST-36
32	31	200.728	0.12	0.49	0.90	0.11	0.34	10.0	14.5	4.2	1.40	5.38	3.23	12	3.04	999.90	1006.00	1000.49	1006.50	1004.10	1012.90	ST-37
33	32	207.463	0.11	0.25	0.90	0.10	0.17	10.0	11.2	4.7	0.80	5.03	2.50	12	2.65	1006.00	1011.50	1006.50	1011.87	1012.90	1022.00	ST-38
34	33	31.010	0.14	0.14	0.50	0.07	0.07	10.0	10.0	4.9	0.35	3.92	1.82	12	1.61	1011.50	1012.00	1011.87	1012.24	1022.00	1015.50	ST-39
35	32	31.458	0.12	0.12	0.50	0.06	0.06	10.0	10.0	4.9	0.30	3.89	1.50	12	1.59	1006.00	1006.50	1006.50	1006.72	1012.90	1010.10	ST-44
36	31	26.754	0.11	0.11	0.50	0.06	0.06	10.0	10.0	4.9	0.27	4.22	1.38	12	1.87	999.90	1000.40	1000.49	1000.61	1004.10	1004.40	ST-40
37	End	40.472	16.09	16.09	0.80	12.87	12.87	10.0	10.0	4.9	63.55	90.86	9.44	36	2.47	1007.00	1008.00	1010.00	1010.56	1010.60	1011.60	ST-7
38	End	48.528	0.13	0.24	0.90	0.12	0.22	10.0	11.0	4.7	1.02	2.22	1.41	12	0.52	994.50	994.75	995.50	995.55	997.55	997.50	ST-34
39	38	39.000	0.11	0.11	0.90	0.10	0.10	10.0	10.0	4.9	0.49	2.47	0.86	12	0.64	994.75	995.00	995.58	995.59	997.50	998.50	ST-35

Project File: 2024-317 Storm 01B.stm

Number of lines: 39

Run Date: 3/28/2025

NOTES:Intensity = 48.57 / (Inlet time + 8.50) ^ 0.78; Return period =Yrs. 10 ; c = cir e = ellip b = box

STORM WATER QUALITY CALCULATIONS

TECHNICAL MEMORANDUM

Ohio Environmental Protection Agency

From: Justin Reinhart, PE, Storm Water Technical Assistance

Date: October 15, 2019

Subject: Gravel, synthetic turf and non-typical landcover

This technical memo provides interim technical guidance until the *Rainwater & Land Development* manual is revised and republished.

Gravel, synthetic turf and similar constructed landcover should be considered impervious when evaluating:

1. **whether post-construction controls are required (projects that do not create any impervious surface are not required to provide post-construction BMPs),**

2. **whether the site has existing impervious area to qualify as previously developed area, and**

3. **when calculating Rv = 0.05 + 0.9(i), where "i" represents the fraction of impervious surface.**

Neither the NPDES Construction General Permit #OHC00005 (CGP) nor the current *Rainwater and Land Development* (RLD) manual provide an explicit definition of impervious surface. As described in the document *Post-Construction Storm Water Q&A - Water Quality Volume* (10/2018), Ohio EPA considers impervious cover as an "area that will be unvegetated such as rooftops, paved or gravel roads and parking lots, sidewalks, detention basins and open water." This guidance derives from the ASCE/WEF Manual of Practice (1998) discussion that "operationally, for mature urban areas, watershed imperviousness can be defined as the fraction of watershed that is unvegetated."

This singular criterion can be used to differentiate pervious and impervious surface as it relates to the effect of construction activities on water quality and receiving streams. Vegetation is an indicator of soil structure that has or is capable of developing infiltration and evapotranspiration rates correlating to a volumetric runoff coefficient (Rv) near 0.05. As described in the *Soil Management* provisional practice of the RLD manual, vigorous vegetation is both a necessary factor in maintaining infiltrating soils and is a result or product of healthy soil. Area disturbed by construction activity, regardless of the final landcover, can be rendered impervious through clearing, grading, compaction, and filling.

Gravel, synthetic turf and similar landcovers are usually placed on a graded, compacted subgrade where the topsoil has been excavated (and often geotextile material used) to form a stable foundation. Although the surface of these landcovers, unlike concrete or asphalt pavement, can be somewhat porous, the lack of infiltration at the subgrade and evapotranspiration at the surface results in a Rv more equivalent to impervious pavement. Additionally, surface grading or subsurface drainage systems are usually included for rapid drainage.

Post-Construction Controls on Gravel and Synthetic Turf

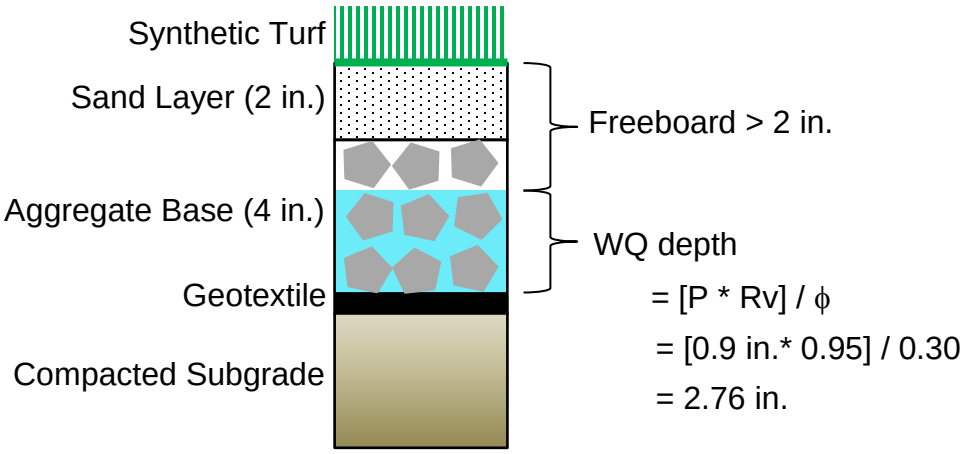
Loose gravel or synthetic turf covers do contain void space within the structure that could be utilized to provide extended detention of the Water Quality Volume (WQv) as a variation of permeable pavement.

These projects should be pre-approved by Ohio EPA and designed per the applicable specifications of the permeable pavement RLD standard as well as the following criteria:

- The area must be subject to direct rainfall only and receive no additional runoff from adjacent areas.
- The area must not be subject high traffic surface loadings or high-risk pollutants.
- The extended detention requirements must still be met. This will require an outlet structure configured to meet the 1) the 24-hour minimum WQv drain times and 2) not discharge more than the first half of the WQv in less than one-third of the drain time.
- A sand filter/ choker course is recommended.
- The aggregate layer must be clean, rinsed and free of silts and fines and consist of poorly or tightly graded aggregate (e.g. AASHTO #57, #4 or #2) or coarse sand. Well graded or gap grade aggregates such as ODOT 304 do not apply.
- The top of the water quality volume must be 2" or more from the surface.
- As referenced in the permeable pavement standard, a porosity (ϕ) of 0.30 is recommended for aggregate and 0.25 for coarse sand. This value accounts for the required additional 20% sediment storage.
- Areas with the potential to be paved over in the future should not be considered.

Where these criteria are not met, a standard Table 4a or 4b practice should be utilized.

Example: Schematic section view of a synthetic turf installation (not to scale)



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STC. 2017. Guidelines for Synthetic Turf Base Systems. Synthetic Turf Council. Forest Hill, MD.

Post-Construction Water Quality Volume
As Required Under Ohio NPDES Construction General Permit No. OHC00005

version 1.1 2020-5-7

This spreadsheet calculates the Water Quality Volume required for both new development and redevelopment projects. Green boxes indicate user input for 1) the total area disturbed, 2) planned total impervious surface and, if redevelopment, 3) total existing impervious surface, each in acres. The user must select new or redevelopment from the dropdown menu to apply the proper equation. Use the separate BMP Compliance Spreadsheets to verify a designed practice or combination of practices meets the applicable requirements including the required Water Quality Volume calculated here. This spreadsheet does not account for factors that may affect the final practice design, including offsite run-on or sediment storage volume.

Project Details

Project Name:	**PNFM**		
Project ID:	**2024-317**		
Project Location:	**Macedonia, OH**		
Project Latitude:	**41.293645**	**Longitude:**	**-81.491422**
NPDES Permit Applicant:	**Geis Construction**		
Submitted By:	**WES**		
Date:	**3/28/2025**		

Required Water Quality Volume Calculation

Total Disturbed Area, A = **32.840** **acres**

Type of Development: Redevelopment

Water Quality Volume Equation: WQv = 0.90 in. * A * [(Rv1*0.2)+(Rv2-Rv1)] / 12 [Equation 3]

where, Rv = 0.05 + 0.9(i)

PRE-CONSTRUCTION CONDITIONS		PROPOSED POST-CONSTRUCTION CONDITIONS	
Ex. Impervious Surface =	**18.410** **acres**	**Total Impervious Surface Area =**	**14.210** **acres**
Ex. Impervious Fraction, i =	**0.561**	**Impervious Fraction, i =**	**0.433**
Rv1 =	**0.555**	**Volumetric Runoff Coefficient, Rv2 =**	**0.439**
		ΔRv =	**-21 %**

Water Quality Volume, WQv = _____ **ac-ft** **=** _____ **cu. ft.**

Message Center: *Rv decrease of 20% or greater is sufficient*

Project and Watershed Information; WQv Calculation

version 3.2 2020-07-07

Project Details

Project Name:	PNFM
Project Location:	Macedonia, OH
Project Latitude:	41.293645
Project Longitude:	-81.491422
NPDES Permit Applicant:	
Submitted by:	MLW
Date:	3/28/2025

Subwatershed Details

Subwatershed ID/Label: New Basin

Subwatershed Drainage Area, A_{total} =	**8.86**	**acres**	**=**	**385,942**	**ft^2**
Subwatershed Impervious Area, A_{imp} =	**5.05**	**acres**	**=**	**219,978**	**ft^2**
Imperviousness fraction, i =	**0.57**		**=**	**57**	**%**
Volumetric Runoff Coefficient, Rv =	**0.56**				
Water Quality Volume, WQv =	**16,296**	**ft^3**	**=**	**0.374**	**ac-ft**

Wet Extended Detention Basin WQv Compliance Tool

version 3.2 2020-07-07

Project Summary

Project Name: PNFM
Subwatershed ID/Label: New Basin
Submitted by: MLW
Date: 3/28/2025

Subwatershed Drainage Area, A_{total} =	8.86	acres	=	385,942	ft2
Subwatershed Impervious Area, A_{imp} =	5.05	acres	=	219,978	ft2
Imperviousness fraction, i =	0.57			57	%
Water Quality Volume, WQv =	16,296	ft^3	=	0.37	ac-ft

Step 1 - Soil Suitability

Soil Series: Udorthents HSG: D

Step 2 - Wet ED Basin Volume Requirements

Extended Detention Volume, EDv =	16296	ft^3
Minimum Sediment Storage Volume, $V_{sediment}$ =	3259	ft^3
Minimum Permanent Pool Volume, PPv =	19555	ft^3

Step 3 - Basin Stage-Storage Relationship

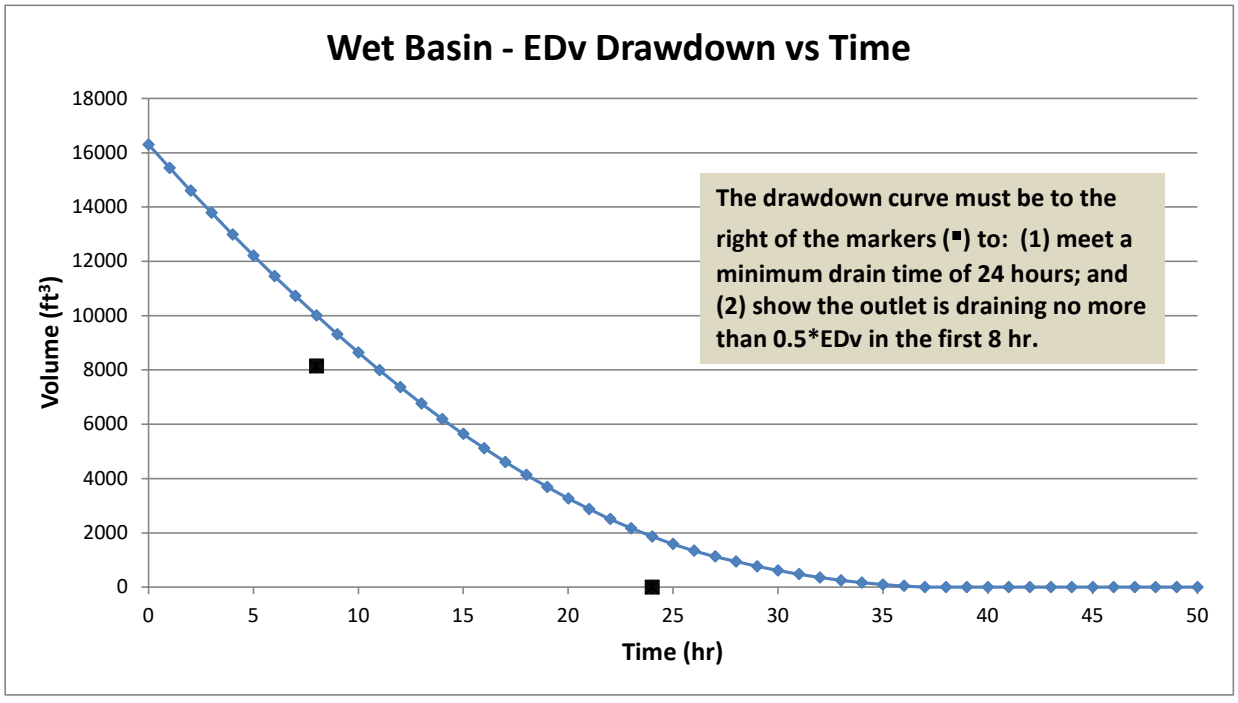
	Elevation ft	Area ft^2		Incremental Volume ft^3	Cumulative Volume ft^3
Bottom of Permanent Micropool =	987.00	971			
	988.00	1331		1,146	1,146
	989.00	1755		1,538	2,684
	990.00	2234		1,990	4,674
	991.00	2767		2,496	7,170
	992.00	3355		3,056	10,226
	993.00	3997		3,671	13,897
	994.00	4689		4,338	18,236
	994.50	5392		2,518	20,754
	995.00	6233		2,904	23,658
	996.00	7981		7,089	30,747
	997.00	9903		8,925	39,672
	998.00	11889		10,881	50,552
	999.00	13975		12,918	63,470
	999.50	15056		7,256	70,726

Step 4 - Outlet Elevations and Storage Volumes

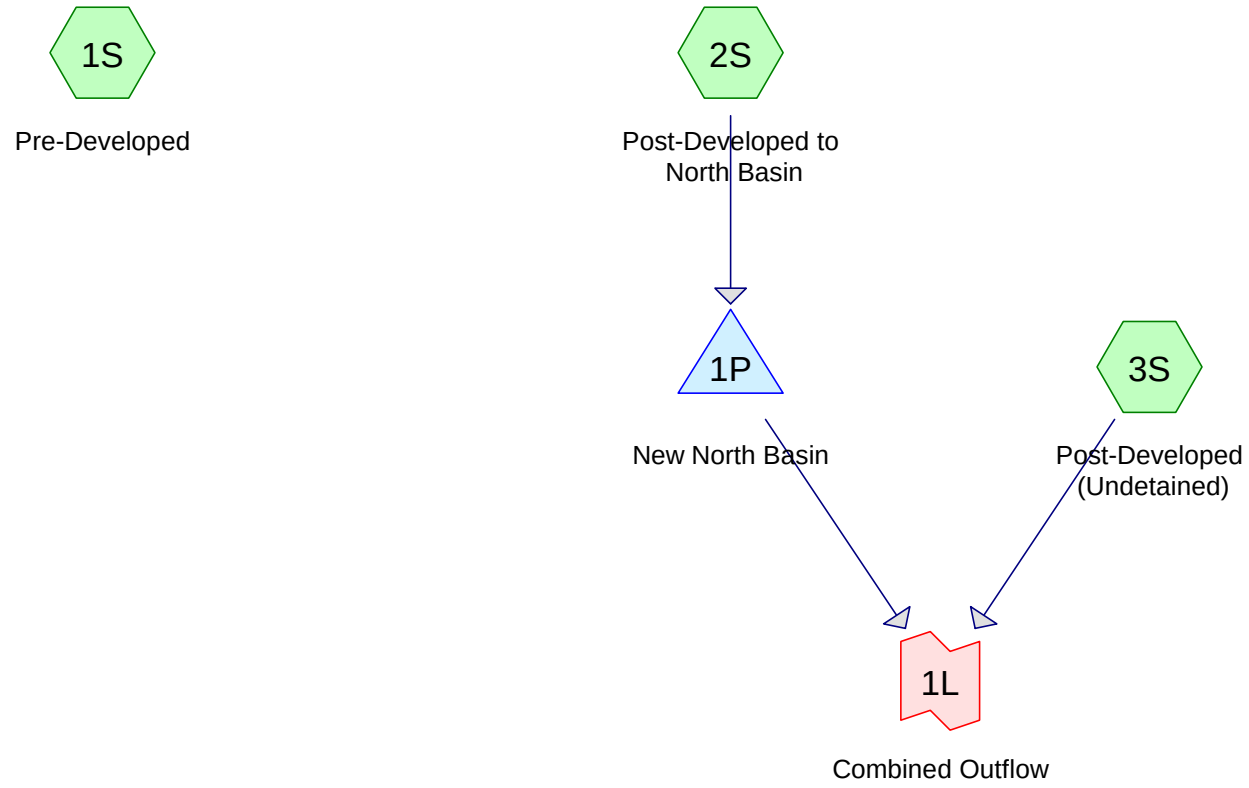
WQ Orifice Invert Elevation =	994.50				
Elevation of Top of EDv =	996.73				
Secondary Outlet Invert Elevation =	996.90				OKAY
WQ Treatment Volume Provided, $V_{treatment}$ =	17,937	ft^3			
Treatment Vol Provided Relative to EDv, $V_{treatment}/EDv$ =	1.10		=	110%	OKAY
Permanent Pool Volume Provided, PPv =	20,754	ft^3			
Ratio PPv Provided to PPv Required =	1.06		=	106%	OKAY

Step 5 - Outlet (Orifice) Sizing

Maximum Hydraulic Head, Hmax =	2.23	ft			
Orifice Coefficient, C =	0.6				
Target (Minimum) Draw-down Time, T_d =	24	hr			
Target Average Discharge, Q_{avg} =	0.19	cfs			
Average Hydraulic Head, H_{avg} =	1.12	ft			
Estimated Orifice Area, $A_{orifice}$ =	5.34	in^2	=	0.037	ft^2
Estimated Orifice Diameter, $D_{orifice}$ =	2.61	in	=	0.22	ft
Design Orifice Diameter, $D_{orifice}$ =	2.50	in	=	0.21	ft
Design Orifice Area, $A_{orifice}$ =	4.88	in^2	=	0.034	ft^2
Time to Completely Drain EDv, T_d =	37	hr	must be ≥ 24 hr		OKAY
Volume Drained in First 8 hr =	6,288	ft^3			
% of EDv =	38.6	%	must be ≤ 50%		OKAY



STORM ROUTING



Subcat Reach Pond Link

Routing Diagram for 2024-317 Pond 01B
Prepared by {enter your company name here}, Printed 3/28/2025

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1S: Pre-Developed Runoff Area=24.880 ac 0.00% Impervious Runoff Depth=1.12"
Flow Length=676' Tc=11.2 min CN=90 Runoff=41.06 cfs 101,118 cf

Subcatchment 2S: Post-Developed to Runoff Area=8.860 ac 58.35% Impervious Runoff Depth=1.19"
Tc=10.0 min CN=91 Runoff=16.14 cfs 38,269 cf

Subcatchment 3S: Post-Developed Runoff Area=16.970 ac 53.98% Impervious Runoff Depth=1.12"
Tc=10.0 min CN=90 Runoff=29.20 cfs 68,970 cf

Pond 1P: New North Basin Peak Elev=997.07' Storage=19,674 cf Inflow=16.14 cfs 38,269 cf
Outflow=2.34 cfs 38,090 cf

Link 1L: Combined Outflow Inflow=29.41 cfs 107,060 cf
Primary=29.41 cfs 107,060 cf

Summary for Subcatchment 1S: Pre-Developed

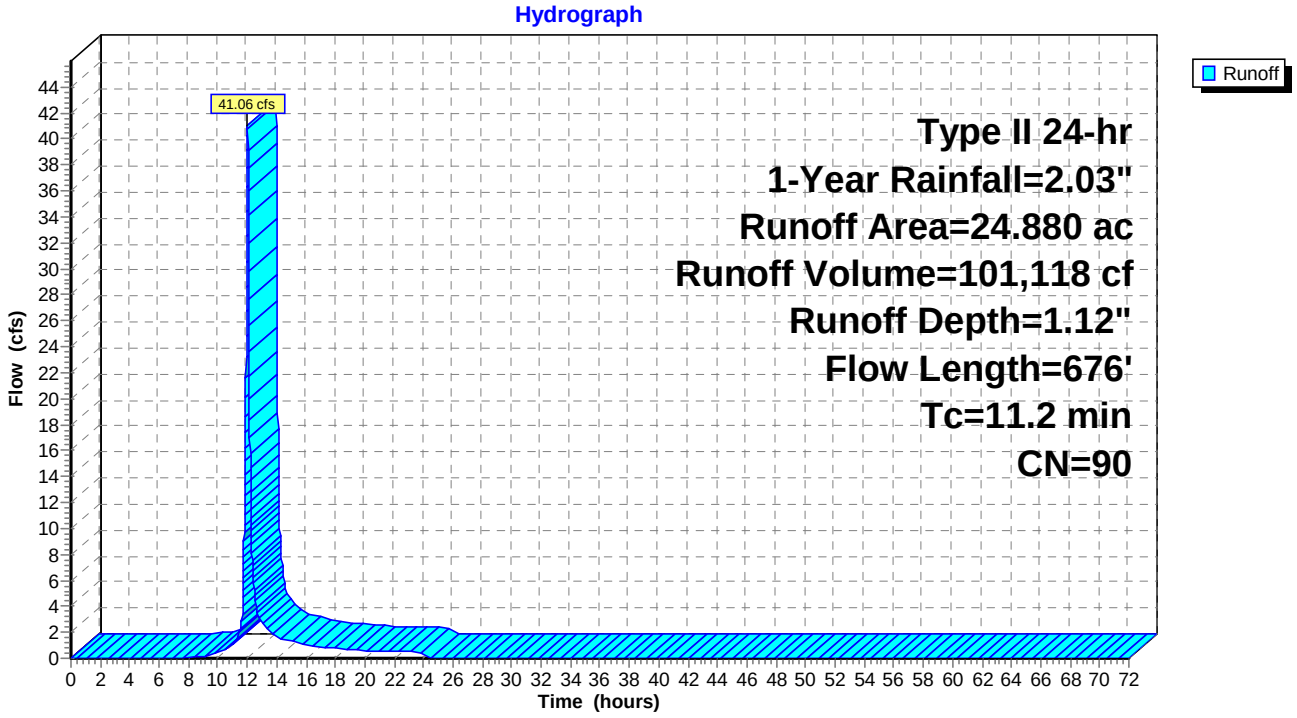
Runoff = 41.06 cfs @ 12.03 hrs, Volume= 101,118 cf, Depth= 1.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Year Rainfall=2.03"

Area (ac)	CN	Description
18.410	96	Gravel surface, HSG C
6.470	74	>75% Grass cover, Good, HSG C
24.880	90	Weighted Average
24.880		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	300	0.0070	0.51		**Sheet Flow,** n= 0.025 P2= 2.43"
1.4	376	0.0730	4.35		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.2	676	Total			

Subcatchment 1S: Pre-Developed



Summary for Subcatchment 2S: Post-Developed to North Basin

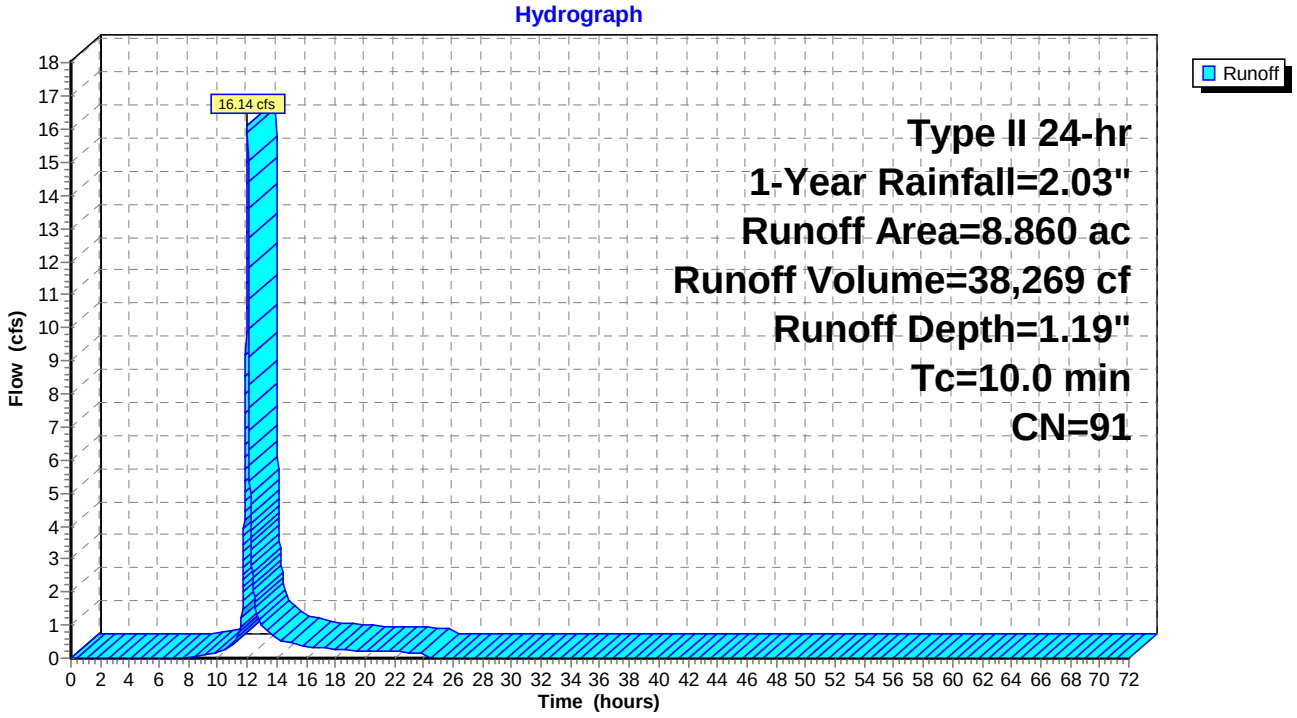
Runoff = 16.14 cfs @ 12.02 hrs, Volume= 38,269 cf, Depth= 1.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Year Rainfall=2.03"

Area (ac)	CN	Description
5.050	98	Paved parking, HSG D
0.120	98	Water Surface, HSG D
3.690	80	>75% Grass cover, Good, HSG D
8.860	91	Weighted Average
3.690		41.65% Pervious Area
5.170		58.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2S: Post-Developed to North Basin



Summary for Subcatchment 3S: Post-Developed (Undetained)

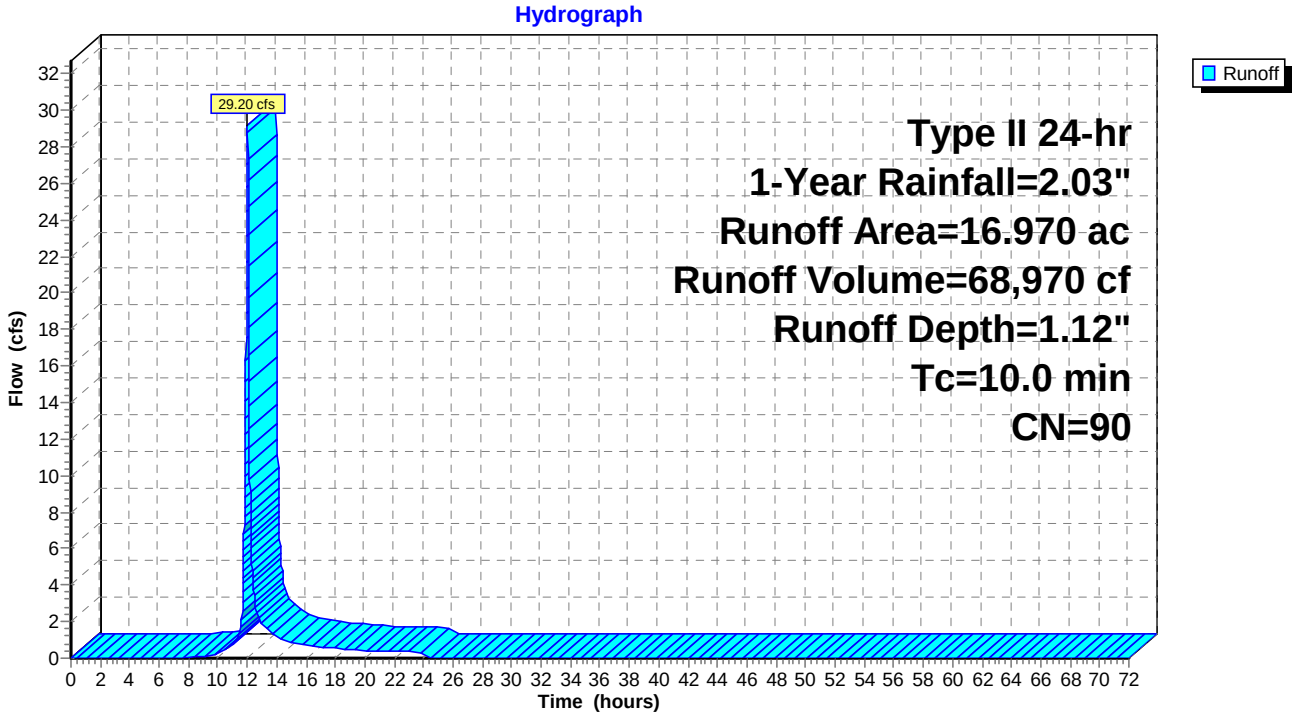
Runoff = 29.20 cfs @ 12.02 hrs, Volume= 68,970 cf, Depth= 1.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Year Rainfall=2.03"

Area (ac)	CN	Description
8.280	98	Paved parking, HSG D
7.810	80	>75% Grass cover, Good, HSG D
0.880	98	Paved parking, HSG D
16.970	90	Weighted Average
7.810		46.02% Pervious Area
9.160		53.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 3S: Post-Developed (Undetained)



Summary for Pond 1P: New North Basin

Inflow Area = 385,942 sf, 58.35% Impervious, Inflow Depth = 1.19" for 1-Year event
Inflow = 16.14 cfs @ 12.02 hrs, Volume= 38,269 cf
Outflow = 2.34 cfs @ 12.37 hrs, Volume= 38,090 cf, Atten= 86%, Lag= 21.5 min
Primary = 2.34 cfs @ 12.37 hrs, Volume= 38,090 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 997.07' @ 12.37 hrs Surf.Area= 10,046 sf Storage= 19,674 cf

Plug-Flow detention time= 687.4 min calculated for 38,090 cf (100% of inflow)
Center-of-Mass det. time= 684.5 min (1,505.8 - 821.3)

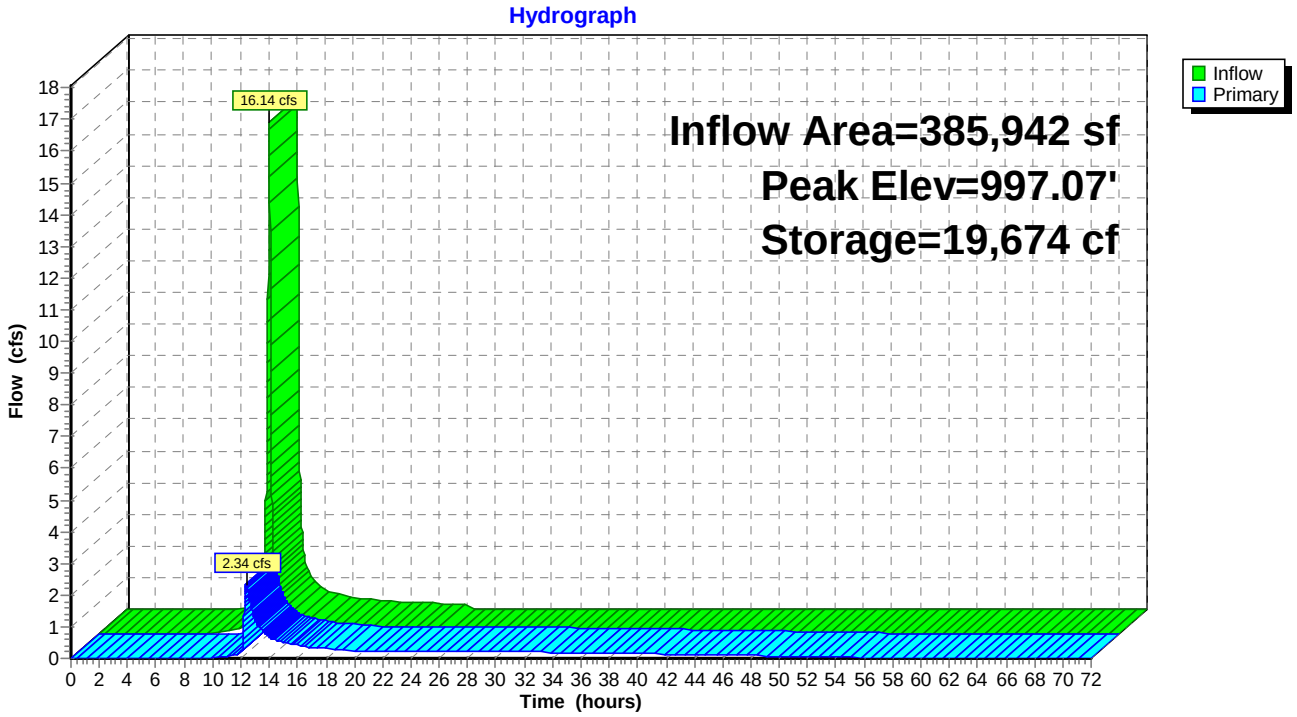
Volume	Invert	Avail.Storage	Storage Description
#1	994.50'	50,041 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
994.50	5,392	0	0
995.00	6,233	2,906	2,906
996.00	7,981	7,107	10,013
997.00	9,903	8,942	18,955
998.00	11,889	10,896	29,851
999.00	13,975	12,932	42,783
999.50	15,056	7,258	50,041

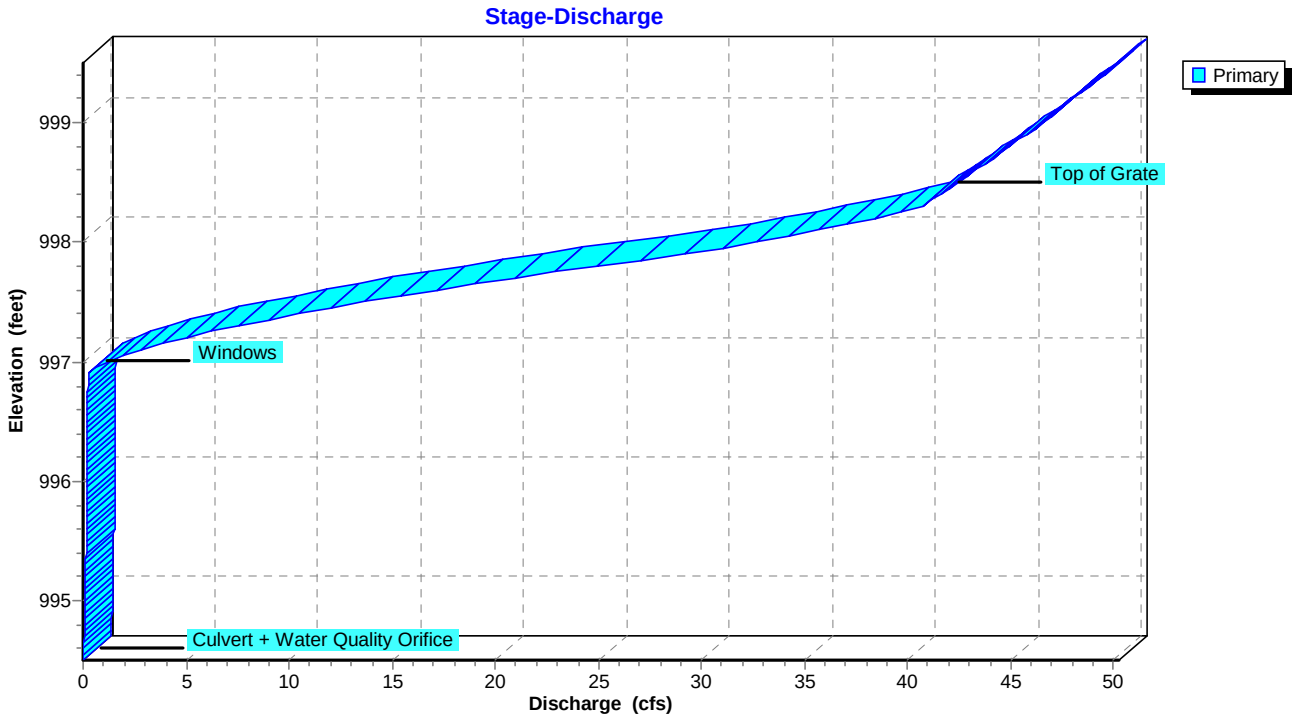
Device	Routing	Invert	Outlet Devices
#1	Primary	994.50'	**36.0" Round Culvert** L= 26.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 994.50' / 994.25' S= 0.0096 '/' Cc= 0.900 n= 0.015, Flow Area= 7.07 sf
#2	Device 1	994.50'	**2.5" Vert. Water Quality Orifice** C= 0.600
#3	Device 1	996.90'	**36.0" W x 12.0" H Vert. Windows X 3.00** C= 0.600
#4	Device 1	998.40'	**1.0" x 22.0" Horiz. Top of Grate** X 12 rows C= 0.600 in 24.0" x 24.0" Grate (46% open area) Limited to weir flow at low heads

Primary OutFlow Max=2.32 cfs @ 12.37 hrs HW=997.07' (Free Discharge)
└**1=Culvert** (Passes 2.32 cfs of 25.08 cfs potential flow)
  ├**2=Water Quality Orifice** (Orifice Controls 0.26 cfs @ 7.56 fps)
  ├**3=Windows** (Orifice Controls 2.06 cfs @ 1.33 fps)
  └**4=Top of Grate** (Controls 0.00 cfs)

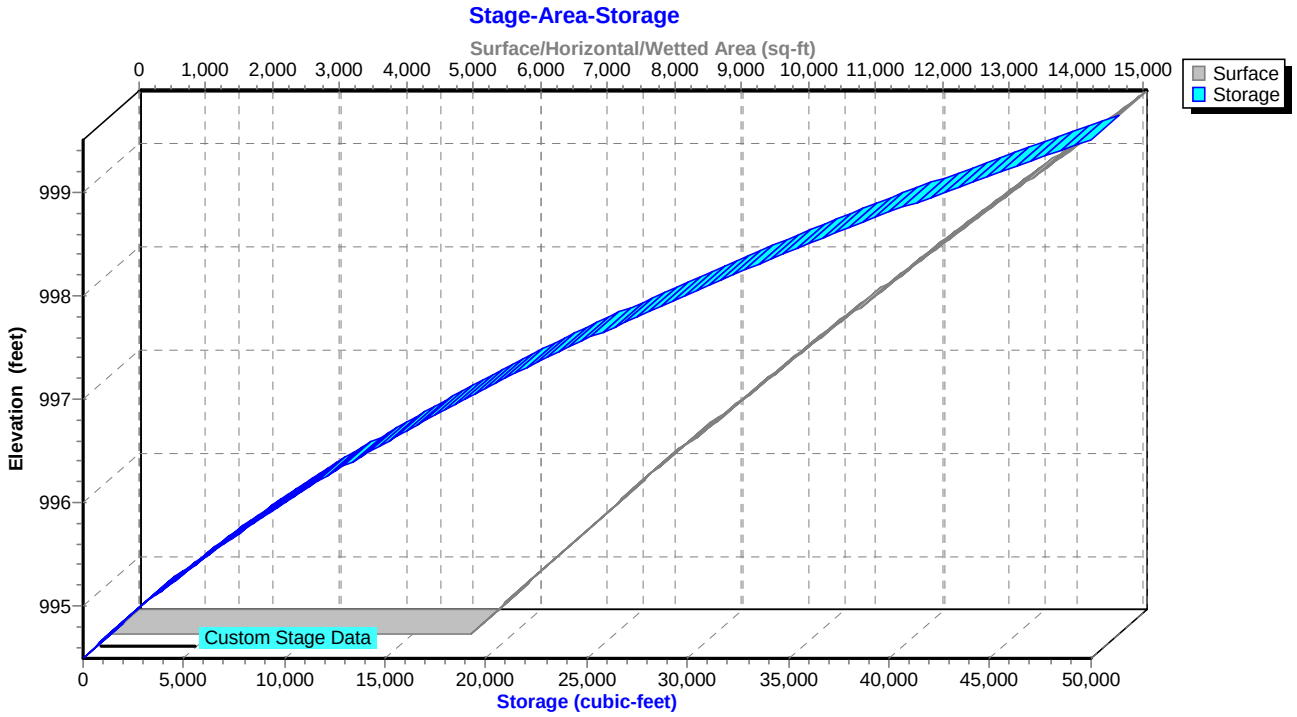
Pond 1P: New North Basin



Pond 1P: New North Basin



Pond 1P: New North Basin

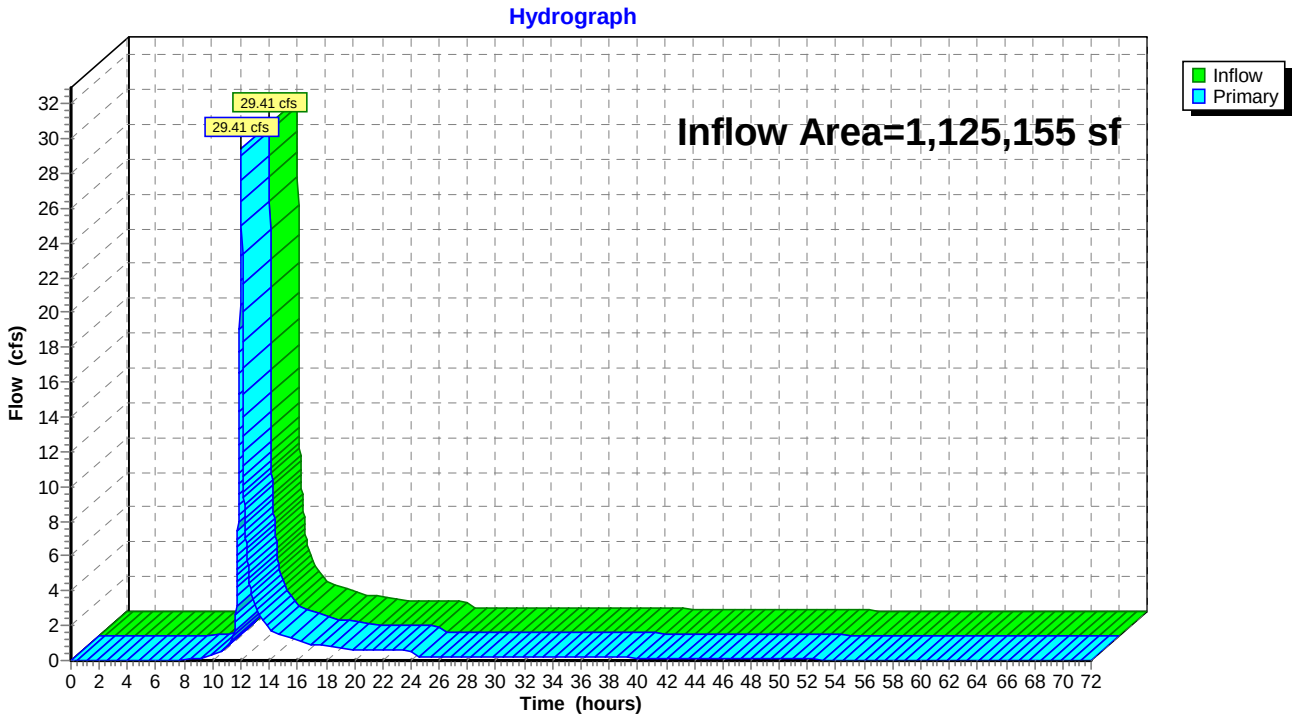


Summary for Link 1L: Combined Outflow

Inflow Area = 1,125,155 sf, 55.48% Impervious, Inflow Depth > 1.14" for 1-Year event
Inflow = 29.41 cfs @ 12.02 hrs, Volume= 107,060 cf
Primary = 29.41 cfs @ 12.02 hrs, Volume= 107,060 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 1L: Combined Outflow



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1S: Pre-Developed Runoff Area=24.880 ac 0.00% Impervious Runoff Depth=1.47"
Flow Length=676' Tc=11.2 min CN=90 Runoff=53.54 cfs 132,640 cf

Subcatchment 2S: Post-Developed to Runoff Area=8.860 ac 58.35% Impervious Runoff Depth=1.55"
Tc=10.0 min CN=91 Runoff=20.81 cfs 49,749 cf

Subcatchment 3S: Post-Developed Runoff Area=16.970 ac 53.98% Impervious Runoff Depth=1.47"
Tc=10.0 min CN=90 Runoff=38.06 cfs 90,470 cf

Pond 1P: New North Basin Peak Elev=997.32' Storage=22,251 cf Inflow=20.81 cfs 49,749 cf
Outflow=8.21 cfs 49,561 cf

Link 1L: Combined Outflow Inflow=38.30 cfs 140,031 cf
Primary=38.30 cfs 140,031 cf

Summary for Subcatchment 1S: Pre-Developed

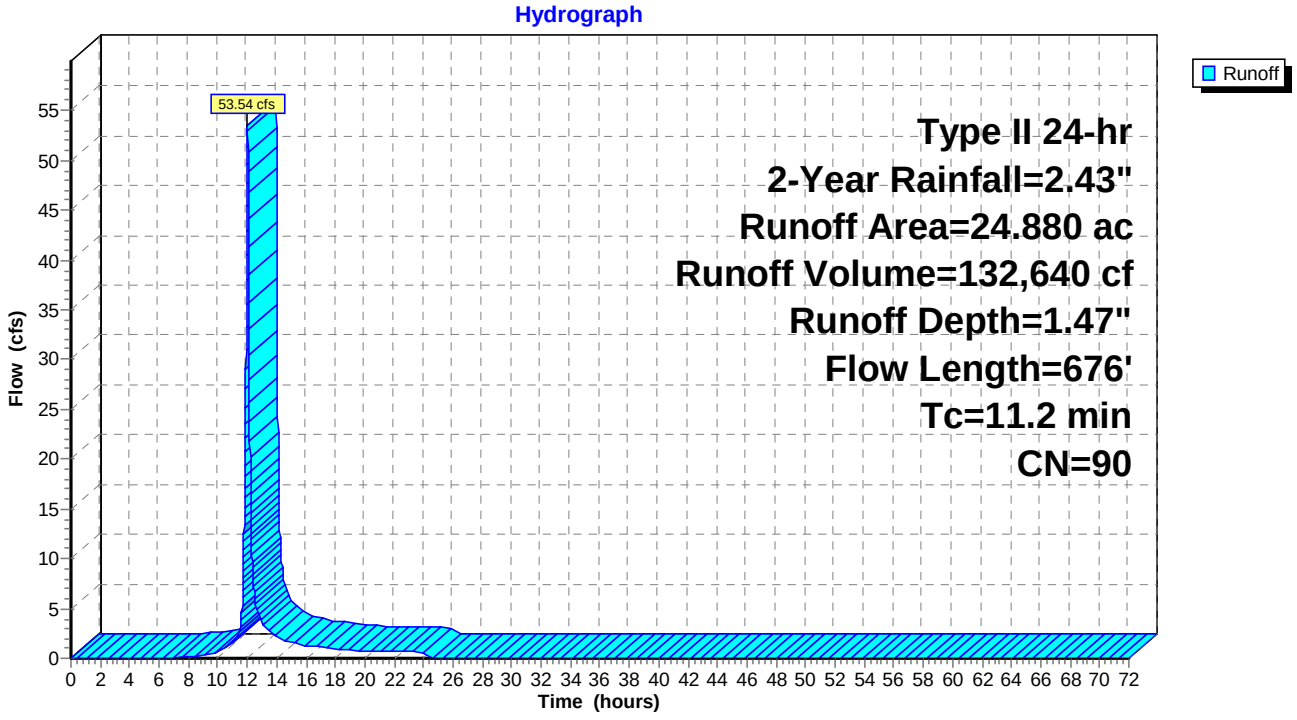
Runoff = 53.54 cfs @ 12.03 hrs, Volume= 132,640 cf, Depth= 1.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Year Rainfall=2.43"

Area (ac)	CN	Description
18.410	96	Gravel surface, HSG C
6.470	74	>75% Grass cover, Good, HSG C
24.880	90	Weighted Average
24.880		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	300	0.0070	0.51		**Sheet Flow,** n= 0.025 P2= 2.43"
1.4	376	0.0730	4.35		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.2	676	Total			

Subcatchment 1S: Pre-Developed



Summary for Subcatchment 2S: Post-Developed to North Basin

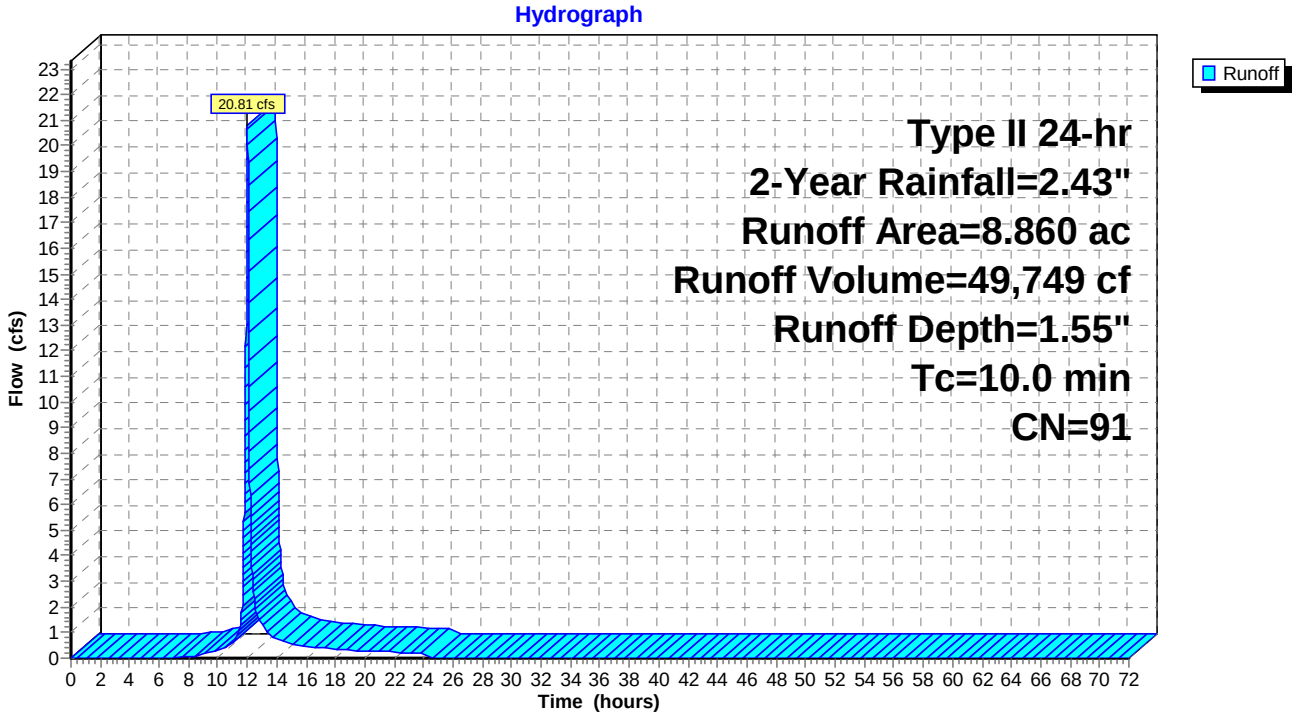
Runoff = 20.81 cfs @ 12.01 hrs, Volume= 49,749 cf, Depth= 1.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Year Rainfall=2.43"

Area (ac)	CN	Description
5.050	98	Paved parking, HSG D
0.120	98	Water Surface, HSG D
3.690	80	>75% Grass cover, Good, HSG D
8.860	91	Weighted Average
3.690		41.65% Pervious Area
5.170		58.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2S: Post-Developed to North Basin



Summary for Subcatchment 3S: Post-Developed (Undetained)

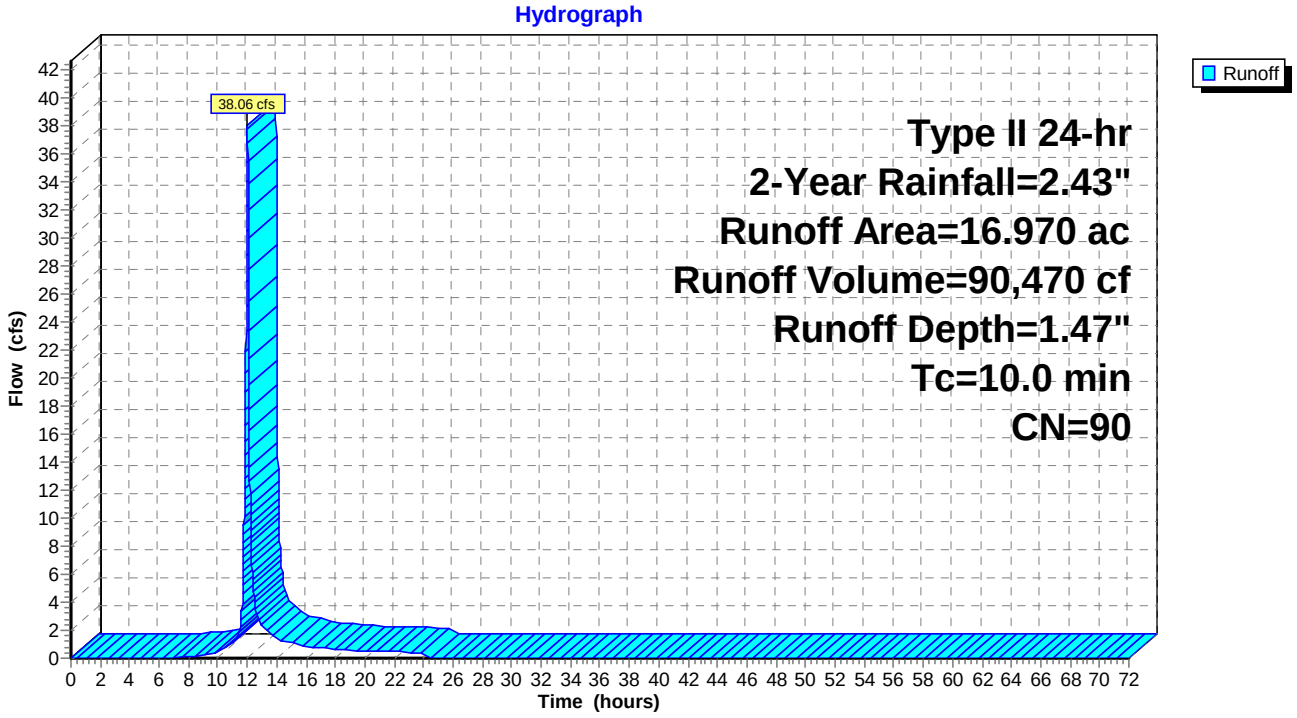
Runoff = 38.06 cfs @ 12.01 hrs, Volume= 90,470 cf, Depth= 1.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Year Rainfall=2.43"

Area (ac)	CN	Description
8.280	98	Paved parking, HSG D
7.810	80	>75% Grass cover, Good, HSG D
0.880	98	Paved parking, HSG D
16.970	90	Weighted Average
7.810		46.02% Pervious Area
9.160		53.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 3S: Post-Developed (Undetained)



Summary for Pond 1P: New North Basin

Inflow Area = 385,942 sf, 58.35% Impervious, Inflow Depth = 1.55" for 2-Year event
Inflow = 20.81 cfs @ 12.01 hrs, Volume= 49,749 cf
Outflow = 8.21 cfs @ 12.16 hrs, Volume= 49,561 cf, Atten= 61%, Lag= 8.7 min
Primary = 8.21 cfs @ 12.16 hrs, Volume= 49,561 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 997.32' @ 12.16 hrs Surf.Area= 10,543 sf Storage= 22,251 cf

Plug-Flow detention time= 553.0 min calculated for 49,561 cf (100% of inflow)
Center-of-Mass det. time= 550.6 min (1,364.4 - 813.8)

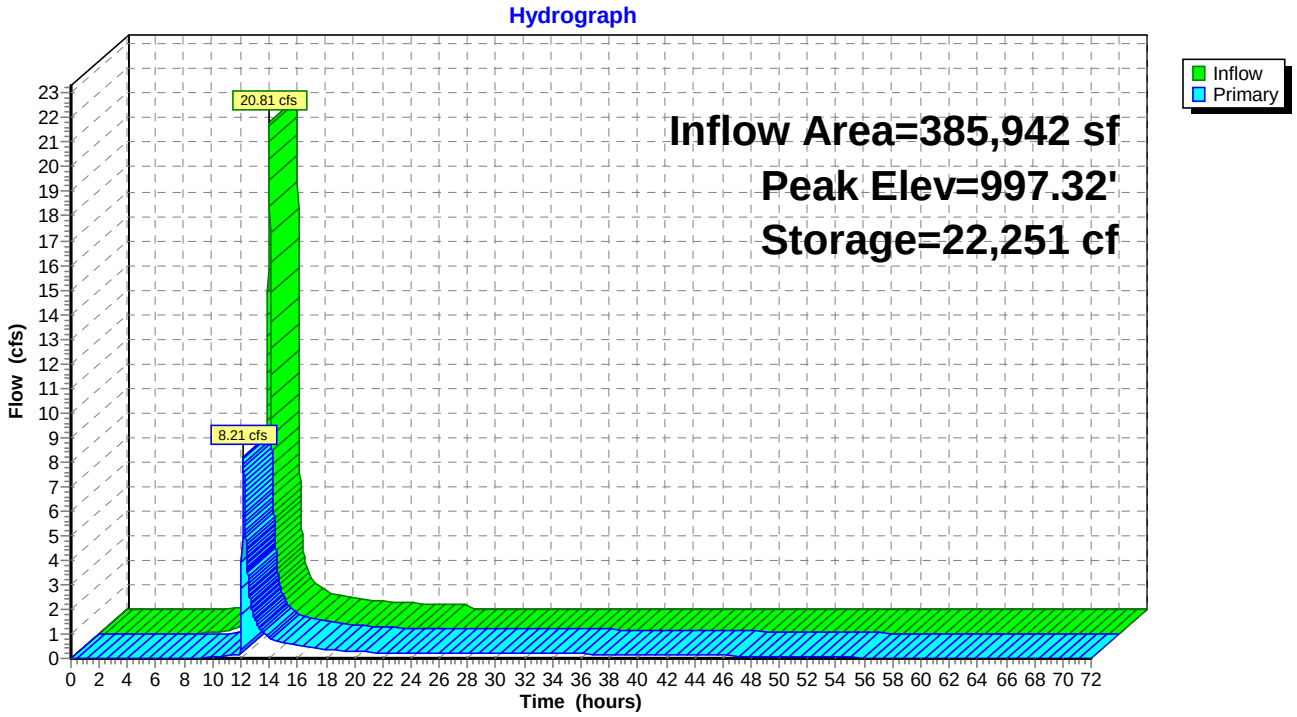
Volume	Invert	Avail.Storage	Storage Description
#1	994.50'	50,041 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
994.50	5,392	0	0
995.00	6,233	2,906	2,906
996.00	7,981	7,107	10,013
997.00	9,903	8,942	18,955
998.00	11,889	10,896	29,851
999.00	13,975	12,932	42,783
999.50	15,056	7,258	50,041

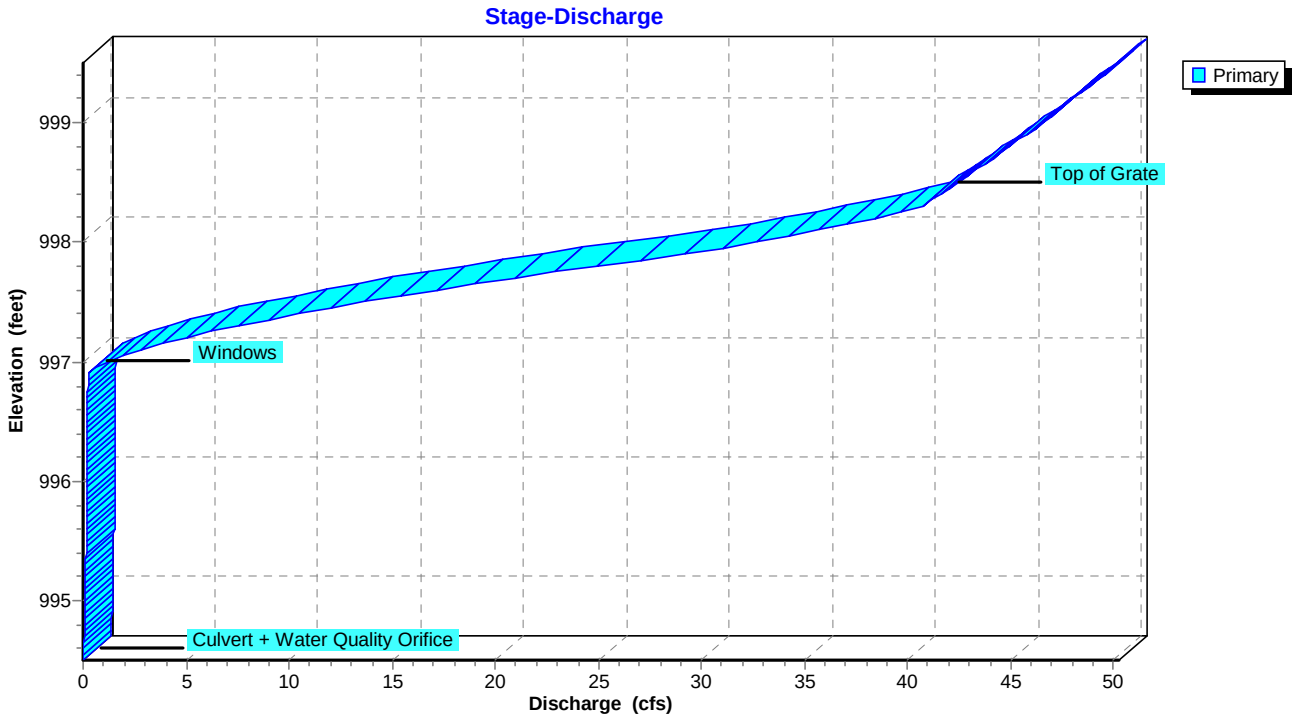
Device	Routing	Invert	Outlet Devices
#1	Primary	994.50'	**36.0" Round Culvert** L= 26.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 994.50' / 994.25' S= 0.0096 '/' Cc= 0.900 n= 0.015, Flow Area= 7.07 sf
#2	Device 1	994.50'	**2.5" Vert. Water Quality Orifice** C= 0.600
#3	Device 1	996.90'	**36.0" W x 12.0" H Vert. Windows X 3.00** C= 0.600
#4	Device 1	998.40'	**1.0" x 22.0" Horiz. Top of Grate** X 12 rows C= 0.600 in 24.0" x 24.0" Grate (46% open area) Limited to weir flow at low heads

Primary OutFlow Max=8.20 cfs @ 12.16 hrs HW=997.32' (Free Discharge)
└**1=Culvert** (Passes 8.20 cfs of 28.86 cfs potential flow)
  ├**2=Water Quality Orifice** (Orifice Controls 0.27 cfs @ 7.94 fps)
  ├**3=Windows** (Orifice Controls 7.93 cfs @ 2.09 fps)
  └**4=Top of Grate** (Controls 0.00 cfs)

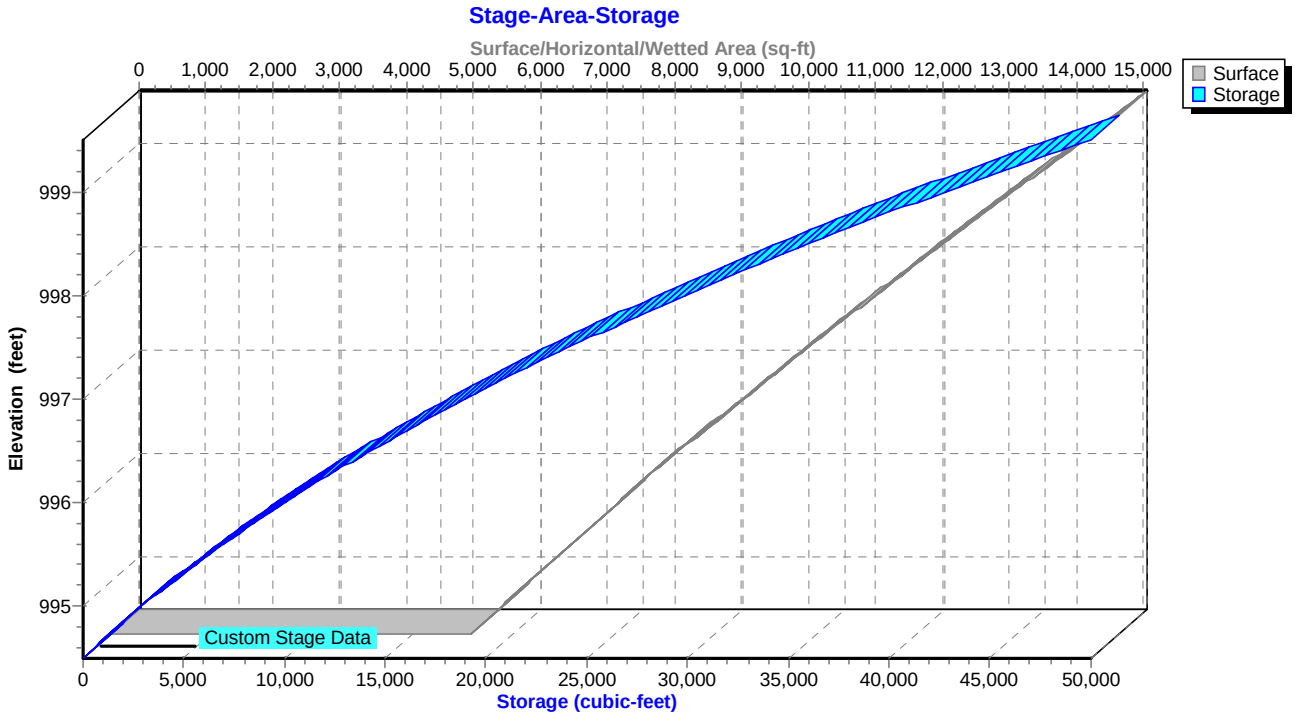
Pond 1P: New North Basin



Pond 1P: New North Basin



Pond 1P: New North Basin

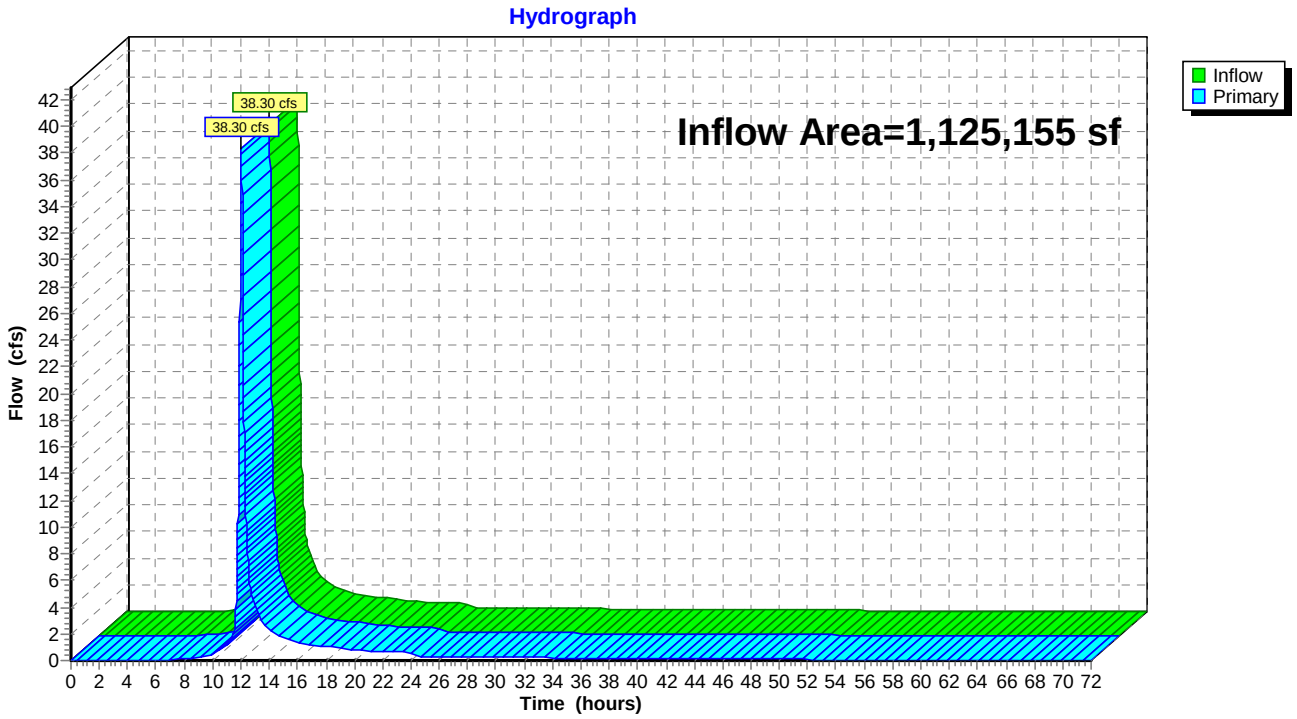


Summary for Link 1L: Combined Outflow

Inflow Area = 1,125,155 sf, 55.48% Impervious, Inflow Depth = 1.49" for 2-Year event
Inflow = 38.30 cfs @ 12.01 hrs, Volume= 140,031 cf
Primary = 38.30 cfs @ 12.01 hrs, Volume= 140,031 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 1L: Combined Outflow



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1S: Pre-Developed Runoff Area=24.880 ac 0.00% Impervious Runoff Depth=2.00"
Flow Length=676' Tc=11.2 min CN=90 Runoff=72.23 cfs 180,855 cf

Subcatchment 2S: Post-Developed to Runoff Area=8.860 ac 58.35% Impervious Runoff Depth=2.09"
Tc=10.0 min CN=91 Runoff=27.76 cfs 67,213 cf

Subcatchment 3S: Post-Developed Runoff Area=16.970 ac 53.98% Impervious Runoff Depth=2.00"
Tc=10.0 min CN=90 Runoff=51.31 cfs 123,356 cf

Pond 1P: New North Basin Peak Elev=997.64' Storage=25,651 cf Inflow=27.76 cfs 67,213 cf
Outflow=18.52 cfs 67,021 cf

Link 1L: Combined Outflow Inflow=63.91 cfs 190,377 cf
Primary=63.91 cfs 190,377 cf

Summary for Subcatchment 1S: Pre-Developed

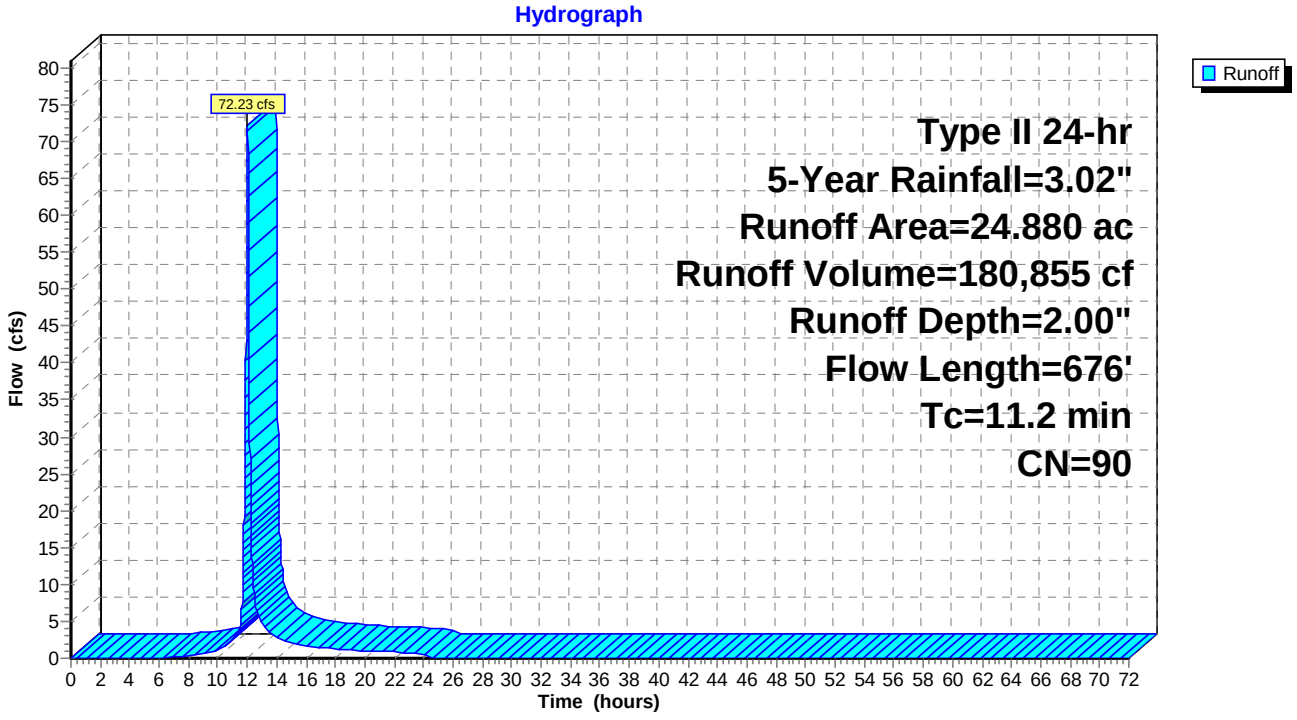
Runoff = 72.23 cfs @ 12.03 hrs, Volume= 180,855 cf, Depth= 2.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 5-Year Rainfall=3.02"

Area (ac)	CN	Description
18.410	96	Gravel surface, HSG C
6.470	74	>75% Grass cover, Good, HSG C
24.880	90	Weighted Average
24.880		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	300	0.0070	0.51		**Sheet Flow,** n= 0.025 P2= 2.43"
1.4	376	0.0730	4.35		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.2	676	Total			

Subcatchment 1S: Pre-Developed



Summary for Subcatchment 2S: Post-Developed to North Basin

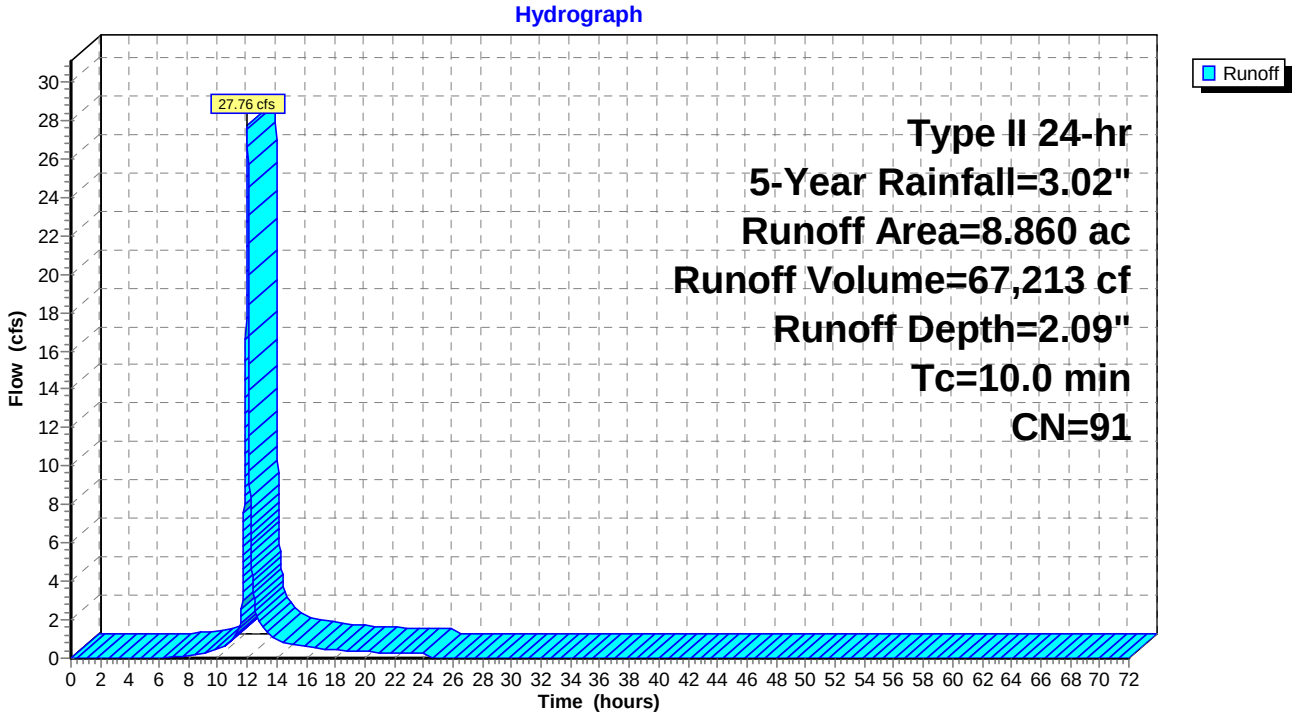
Runoff = 27.76 cfs @ 12.01 hrs, Volume= 67,213 cf, Depth= 2.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 5-Year Rainfall=3.02"

Area (ac)	CN	Description
5.050	98	Paved parking, HSG D
0.120	98	Water Surface, HSG D
3.690	80	>75% Grass cover, Good, HSG D
8.860	91	Weighted Average
3.690		41.65% Pervious Area
5.170		58.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2S: Post-Developed to North Basin



Summary for Subcatchment 3S: Post-Developed (Undetained)

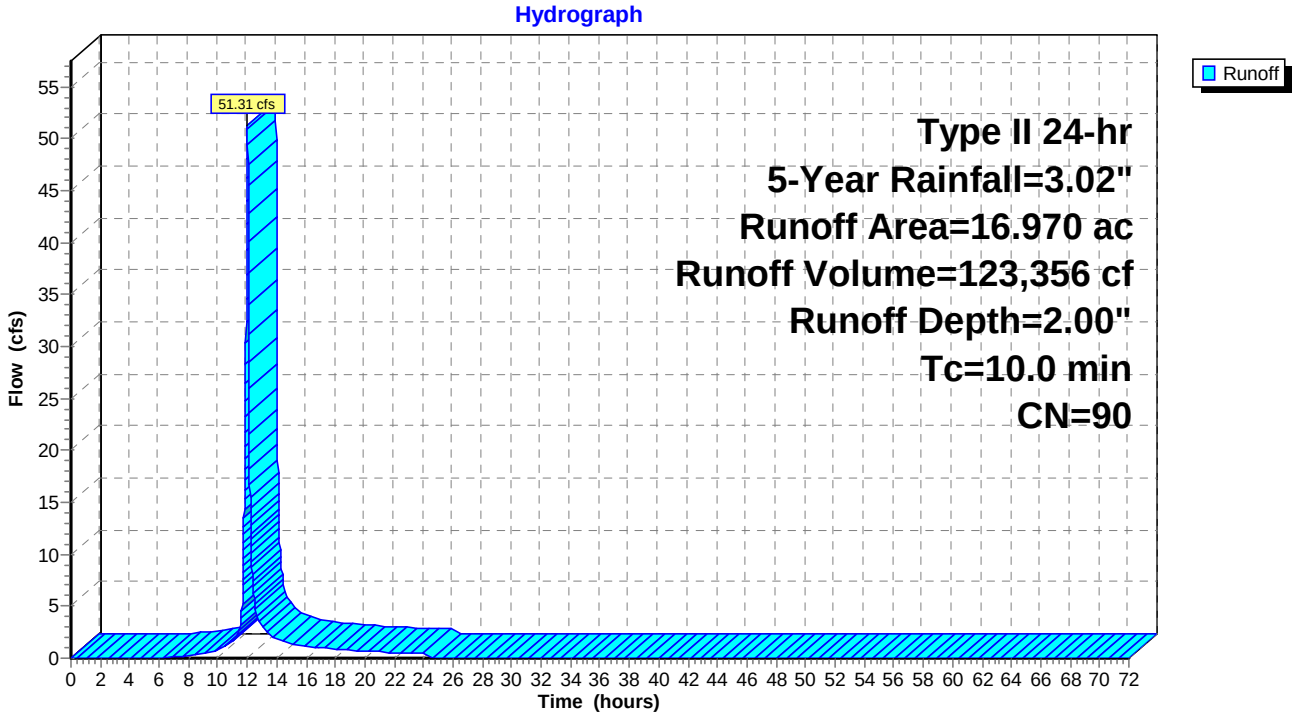
Runoff = 51.31 cfs @ 12.01 hrs, Volume= 123,356 cf, Depth= 2.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 5-Year Rainfall=3.02"

Area (ac)	CN	Description
8.280	98	Paved parking, HSG D
7.810	80	>75% Grass cover, Good, HSG D
0.880	98	Paved parking, HSG D
16.970	90	Weighted Average
7.810		46.02% Pervious Area
9.160		53.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 3S: Post-Developed (Undetained)



Summary for Pond 1P: New North Basin

Inflow Area = 385,942 sf, 58.35% Impervious, Inflow Depth = 2.09" for 5-Year event
Inflow = 27.76 cfs @ 12.01 hrs, Volume= 67,213 cf
Outflow = 18.52 cfs @ 12.10 hrs, Volume= 67,021 cf, Atten= 33%, Lag= 5.2 min
Primary = 18.52 cfs @ 12.10 hrs, Volume= 67,021 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 997.64' @ 12.10 hrs Surf.Area= 11,165 sf Storage= 25,651 cf

Plug-Flow detention time= 421.1 min calculated for 67,021 cf (100% of inflow)
Center-of-Mass det. time= 419.3 min (1,224.6 - 805.3)

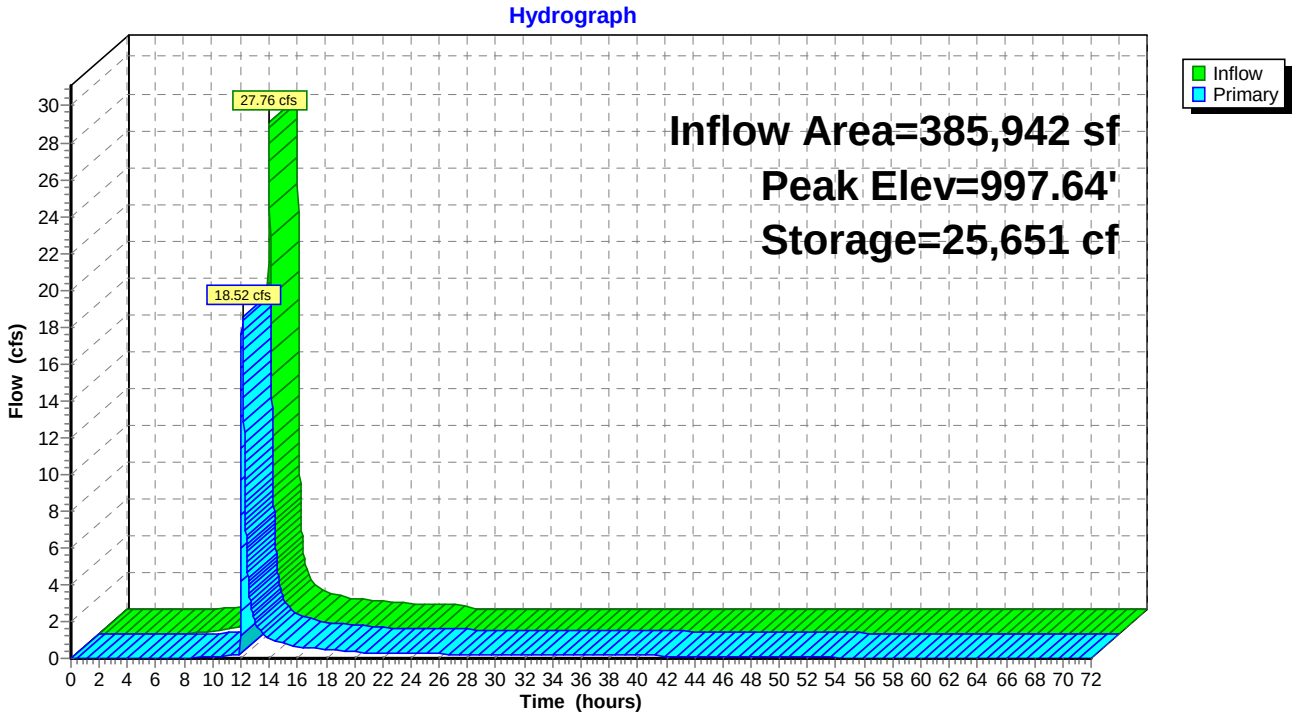
Volume	Invert	Avail.Storage	Storage Description
#1	994.50'	50,041 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
994.50	5,392	0	0
995.00	6,233	2,906	2,906
996.00	7,981	7,107	10,013
997.00	9,903	8,942	18,955
998.00	11,889	10,896	29,851
999.00	13,975	12,932	42,783
999.50	15,056	7,258	50,041

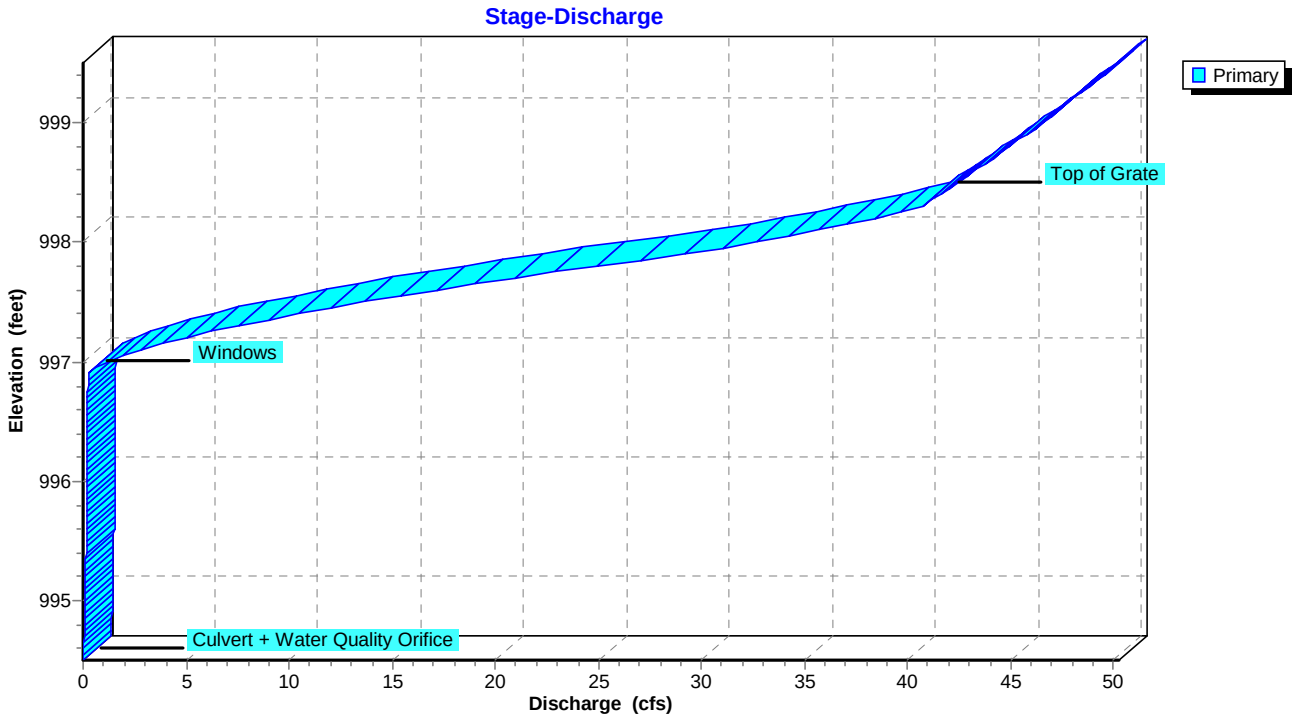
Device	Routing	Invert	Outlet Devices
#1	Primary	994.50'	**36.0" Round Culvert** L= 26.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 994.50' / 994.25' S= 0.0096 '/' Cc= 0.900 n= 0.015, Flow Area= 7.07 sf
#2	Device 1	994.50'	**2.5" Vert. Water Quality Orifice** C= 0.600
#3	Device 1	996.90'	**36.0" W x 12.0" H Vert. Windows X 3.00** C= 0.600
#4	Device 1	998.40'	**1.0" x 22.0" Horiz. Top of Grate** X 12 rows C= 0.600 in 24.0" x 24.0" Grate (46% open area) Limited to weir flow at low heads

Primary OutFlow Max=18.51 cfs @ 12.10 hrs HW=997.64' (Free Discharge)
└**1=Culvert** (Passes 18.51 cfs of 33.52 cfs potential flow)
  ├**2=Water Quality Orifice** (Orifice Controls 0.29 cfs @ 8.38 fps)
  ├**3=Windows** (Orifice Controls 18.22 cfs @ 2.75 fps)
  └**4=Top of Grate** (Controls 0.00 cfs)

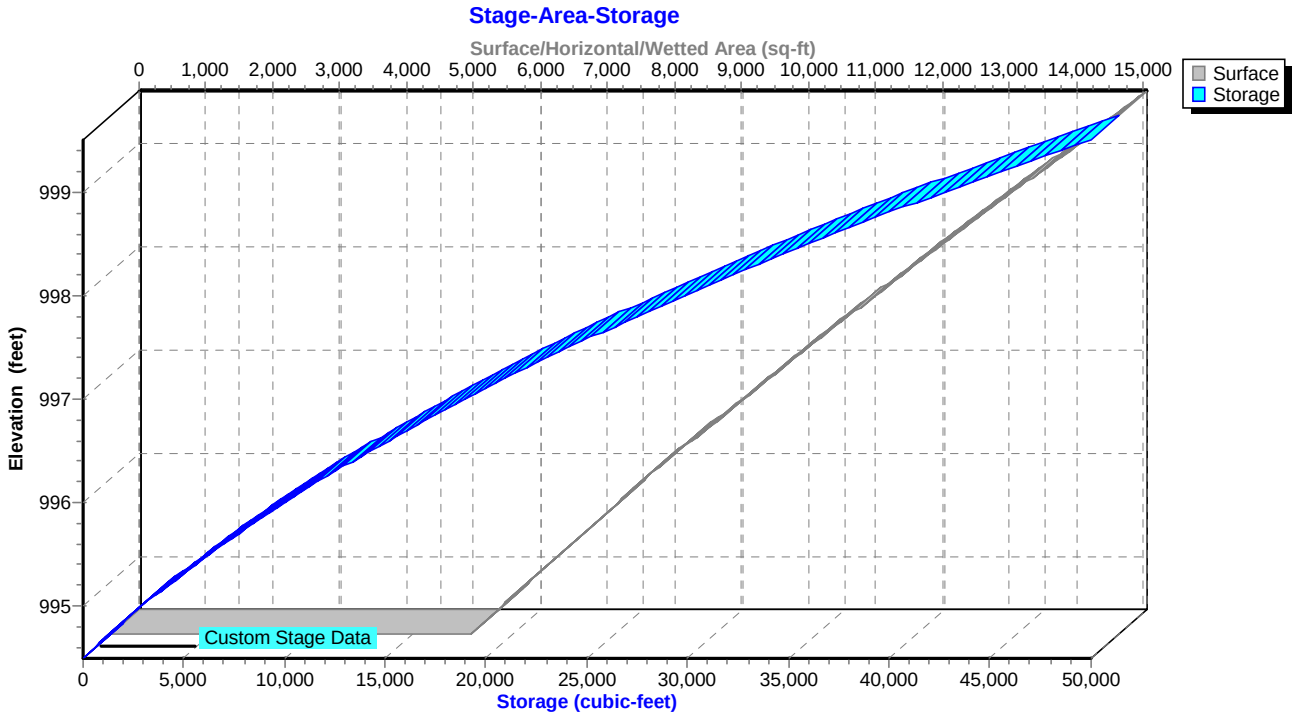
Pond 1P: New North Basin



Pond 1P: New North Basin



Pond 1P: New North Basin

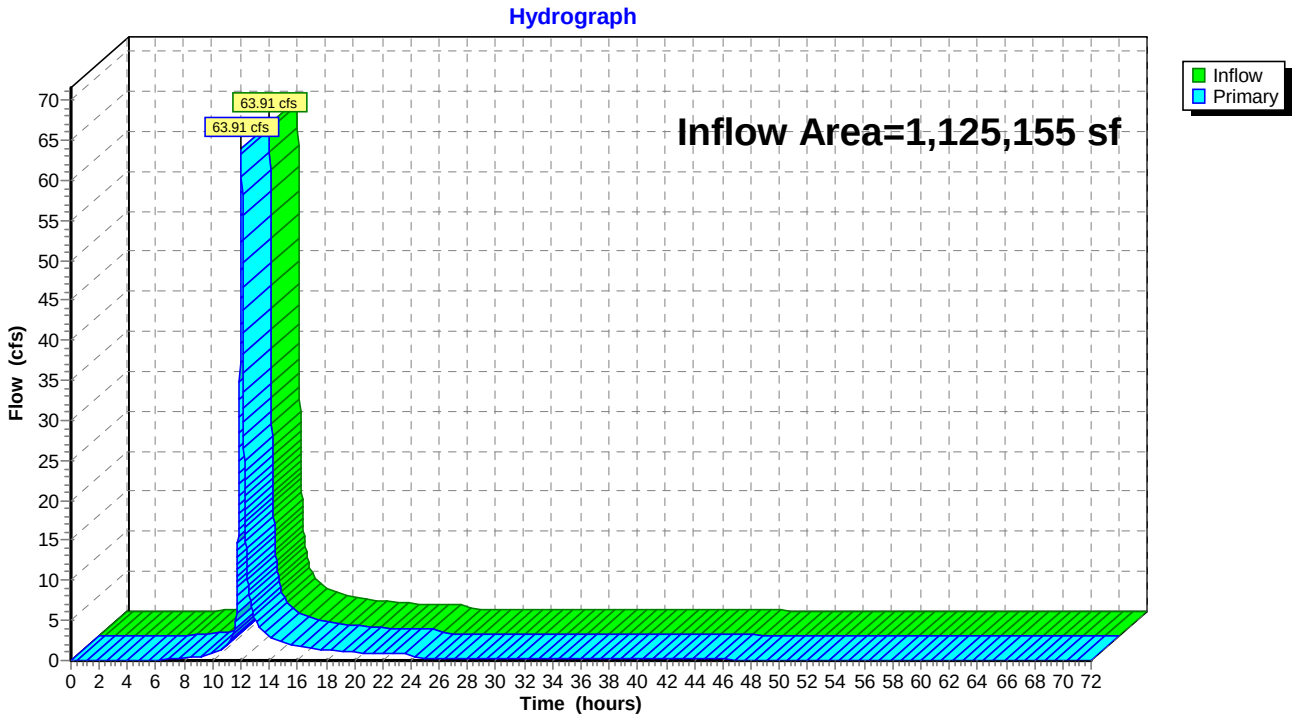


Summary for Link 1L: Combined Outflow

Inflow Area = 1,125,155 sf, 55.48% Impervious, Inflow Depth = 2.03" for 5-Year event
Inflow = 63.91 cfs @ 12.04 hrs, Volume= 190,377 cf
Primary = 63.91 cfs @ 12.04 hrs, Volume= 190,377 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 1L: Combined Outflow



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1S: Pre-Developed Runoff Area=24.880 ac 0.00% Impervious Runoff Depth=2.46"
Flow Length=676' Tc=11.2 min CN=90 Runoff=87.84 cfs 221,931 cf

Subcatchment 2S: Post-Developed to Runoff Area=8.860 ac 58.35% Impervious Runoff Depth=2.55"
Tc=10.0 min CN=91 Runoff=33.54 cfs 82,032 cf

Subcatchment 3S: Post-Developed Runoff Area=16.970 ac 53.98% Impervious Runoff Depth=2.46"
Tc=10.0 min CN=90 Runoff=62.38 cfs 151,374 cf

Pond 1P: New North Basin Peak Elev=997.83' Storage=27,834 cf Inflow=33.54 cfs 82,032 cf
Outflow=26.12 cfs 81,839 cf

Link 1L: Combined Outflow Inflow=84.37 cfs 233,213 cf
Primary=84.37 cfs 233,213 cf

Summary for Subcatchment 1S: Pre-Developed

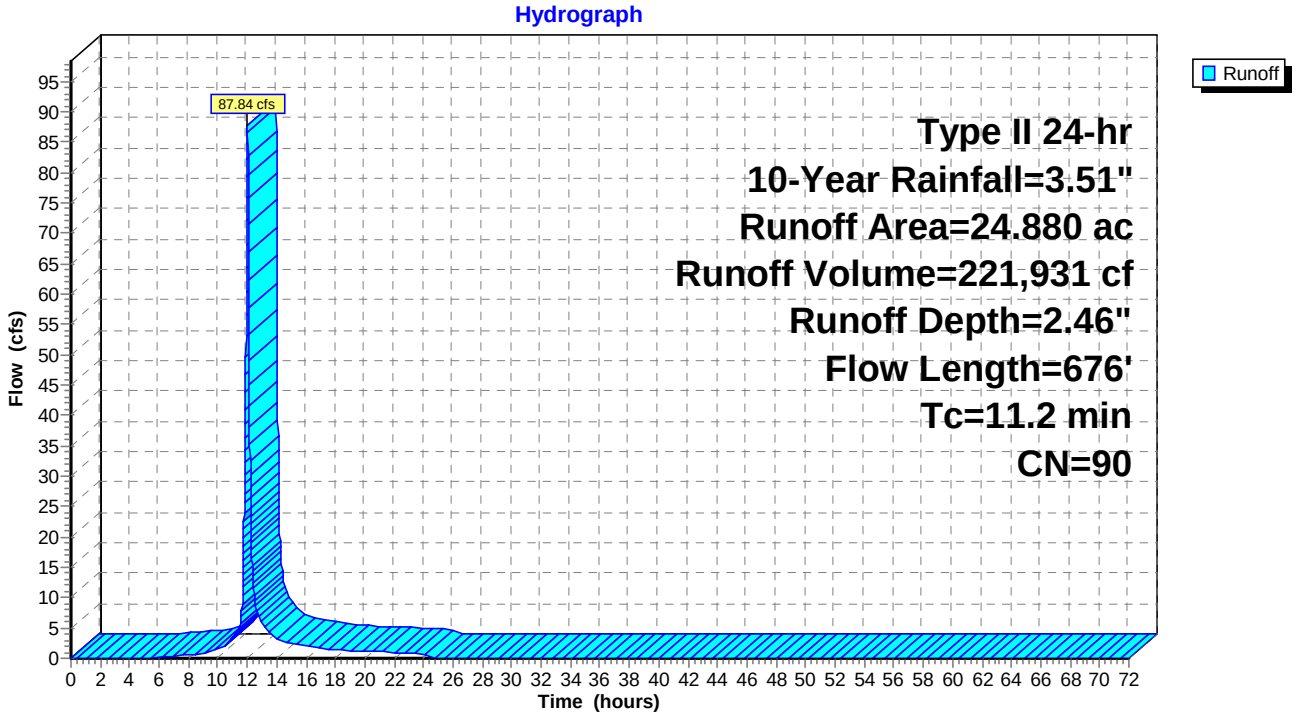
Runoff = 87.84 cfs @ 12.03 hrs, Volume= 221,931 cf, Depth= 2.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Year Rainfall=3.51"

Area (ac)	CN	Description
18.410	96	Gravel surface, HSG C
6.470	74	>75% Grass cover, Good, HSG C
24.880	90	Weighted Average
24.880		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	300	0.0070	0.51		**Sheet Flow,** n= 0.025 P2= 2.43"
1.4	376	0.0730	4.35		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.2	676	Total			

Subcatchment 1S: Pre-Developed



Summary for Subcatchment 2S: Post-Developed to North Basin

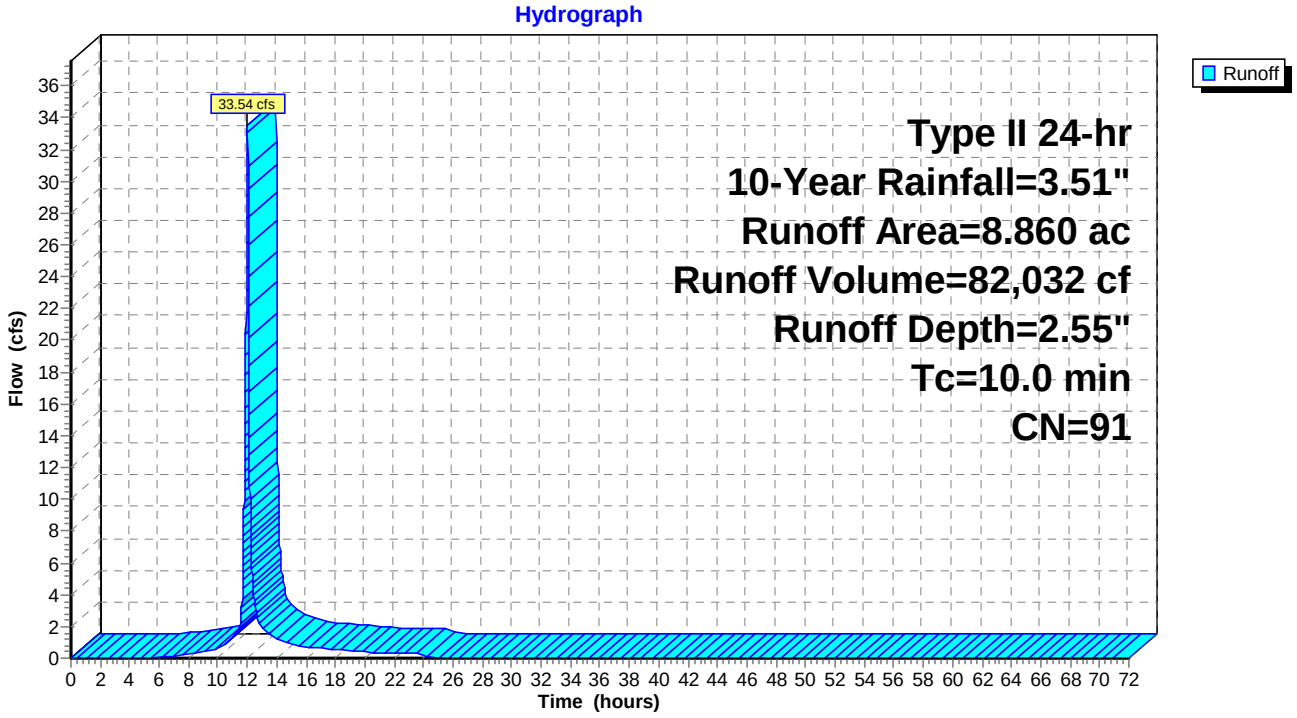
Runoff = 33.54 cfs @ 12.01 hrs, Volume= 82,032 cf, Depth= 2.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Year Rainfall=3.51"

Area (ac)	CN	Description
5.050	98	Paved parking, HSG D
0.120	98	Water Surface, HSG D
3.690	80	>75% Grass cover, Good, HSG D
8.860	91	Weighted Average
3.690		41.65% Pervious Area
5.170		58.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2S: Post-Developed to North Basin



Summary for Subcatchment 3S: Post-Developed (Undetained)

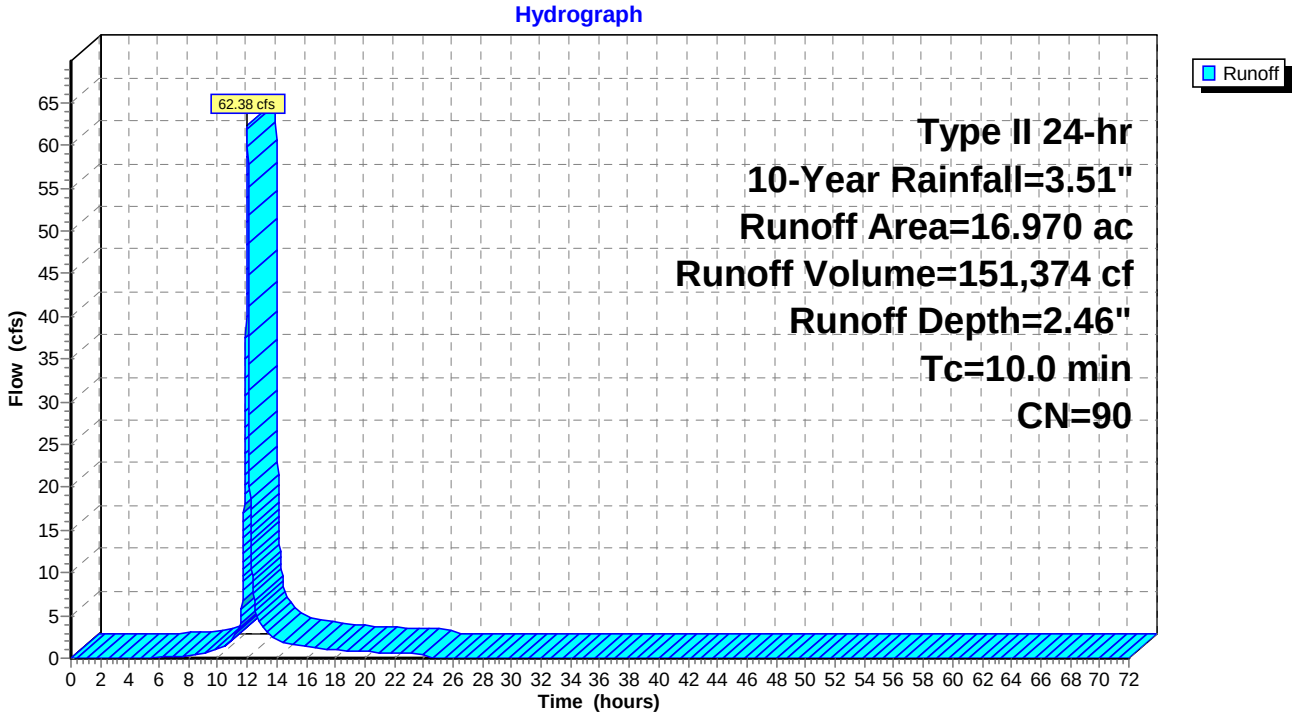
Runoff = 62.38 cfs @ 12.01 hrs, Volume= 151,374 cf, Depth= 2.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Year Rainfall=3.51"

Area (ac)	CN	Description
8.280	98	Paved parking, HSG D
7.810	80	>75% Grass cover, Good, HSG D
0.880	98	Paved parking, HSG D
16.970	90	Weighted Average
7.810		46.02% Pervious Area
9.160		53.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 3S: Post-Developed (Undetained)



Summary for Pond 1P: New North Basin

Inflow Area = 385,942 sf, 58.35% Impervious, Inflow Depth = 2.55" for 10-Year event
Inflow = 33.54 cfs @ 12.01 hrs, Volume= 82,032 cf
Outflow = 26.12 cfs @ 12.08 hrs, Volume= 81,839 cf, Atten= 22%, Lag= 4.0 min
Primary = 26.12 cfs @ 12.08 hrs, Volume= 81,839 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 997.83' @ 12.08 hrs Surf.Area= 11,547 sf Storage= 27,834 cf

Plug-Flow detention time= 351.5 min calculated for 81,839 cf (100% of inflow)
Center-of-Mass det. time= 350.0 min (1,149.6 - 799.6)

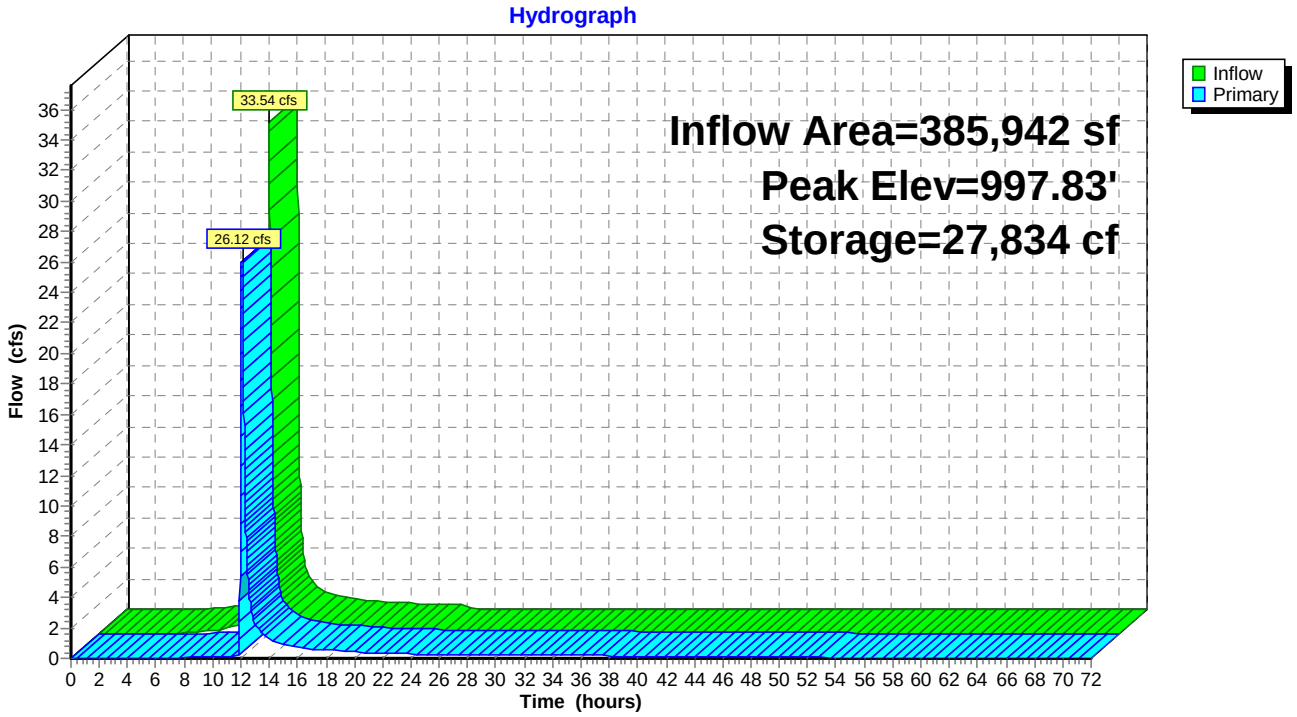
Volume	Invert	Avail.Storage	Storage Description
#1	994.50'	50,041 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
994.50	5,392	0	0
995.00	6,233	2,906	2,906
996.00	7,981	7,107	10,013
997.00	9,903	8,942	18,955
998.00	11,889	10,896	29,851
999.00	13,975	12,932	42,783
999.50	15,056	7,258	50,041

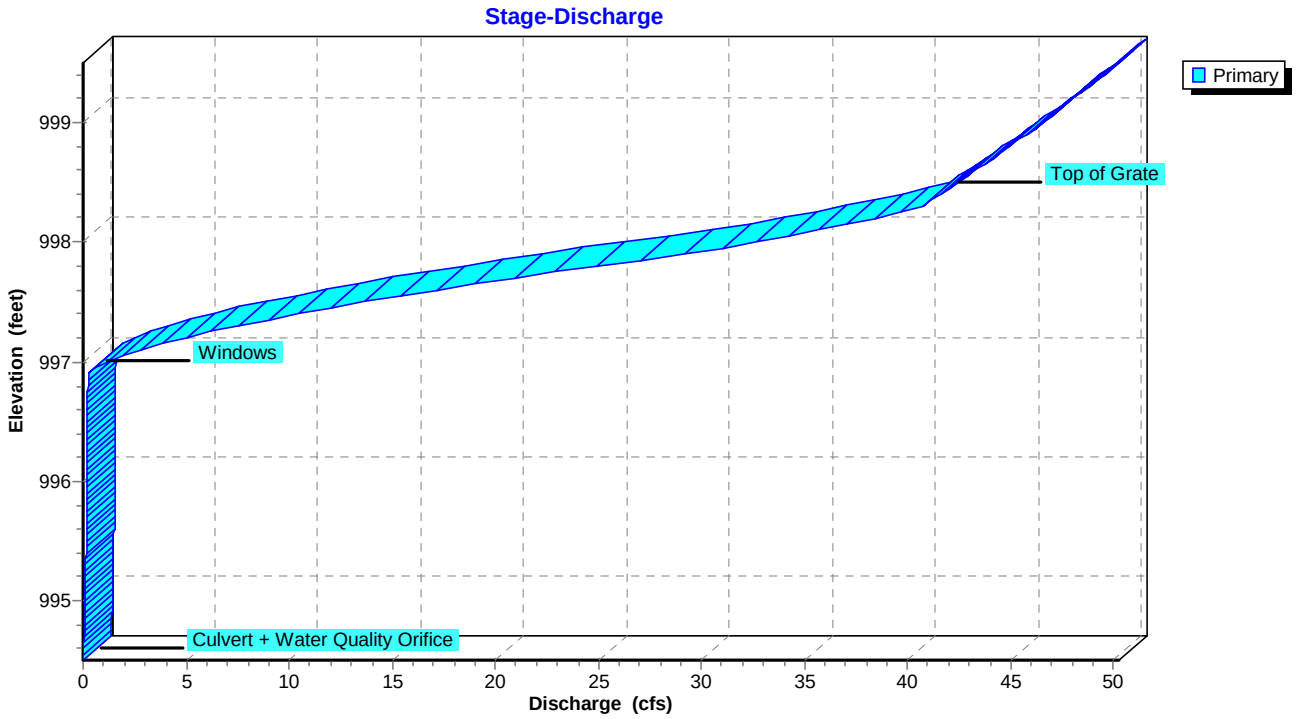
Device	Routing	Invert	Outlet Devices
#1	Primary	994.50'	**36.0" Round Culvert** L= 26.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 994.50' / 994.25' S= 0.0096 '/' Cc= 0.900 n= 0.015, Flow Area= 7.07 sf
#2	Device 1	994.50'	**2.5" Vert. Water Quality Orifice** C= 0.600
#3	Device 1	996.90'	**36.0" W x 12.0" H Vert. Windows X 3.00** C= 0.600
#4	Device 1	998.40'	**1.0" x 22.0" Horiz. Top of Grate** X 12 rows C= 0.600 in 24.0" x 24.0" Grate (46% open area) Limited to weir flow at low heads

Primary OutFlow Max=26.11 cfs @ 12.08 hrs HW=997.83' (Free Discharge)
└**1=Culvert** (Passes 26.11 cfs of 36.26 cfs potential flow)
  ├**2=Water Quality Orifice** (Orifice Controls 0.29 cfs @ 8.64 fps)
  ├**3=Windows** (Orifice Controls 25.81 cfs @ 3.09 fps)
  └**4=Top of Grate** (Controls 0.00 cfs)

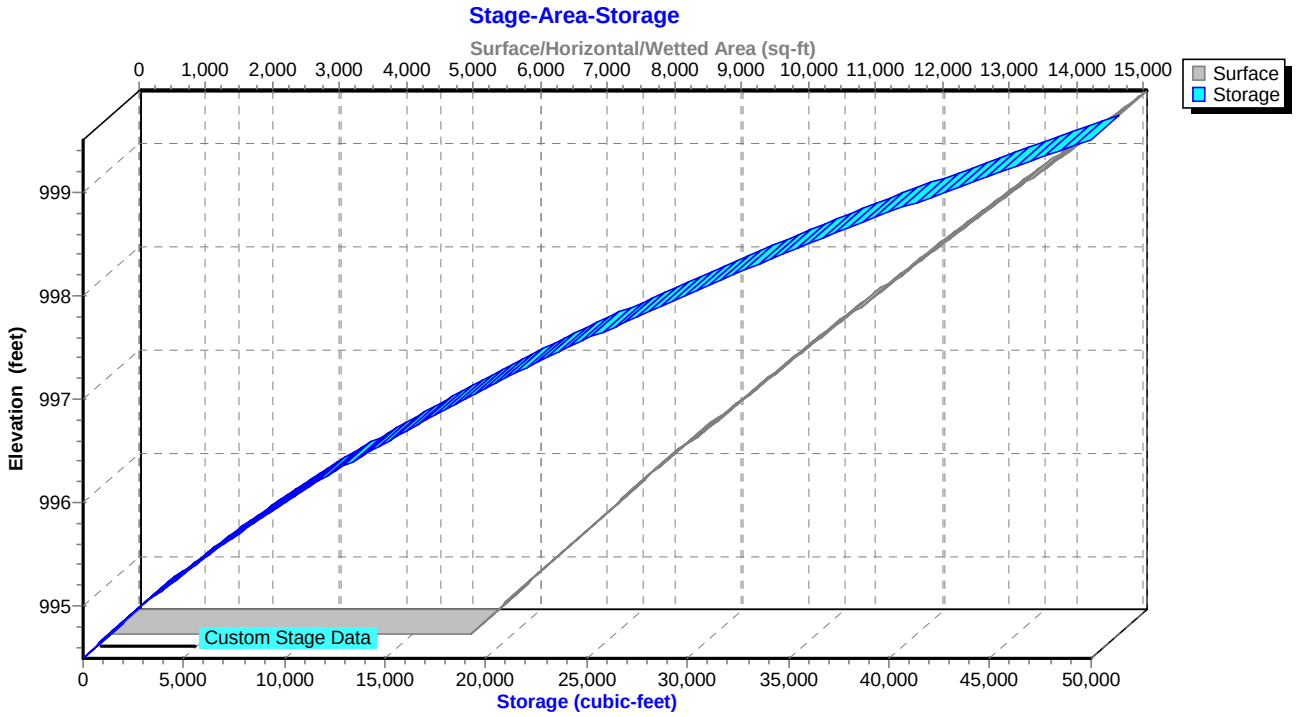
Pond 1P: New North Basin



Pond 1P: New North Basin



Pond 1P: New North Basin

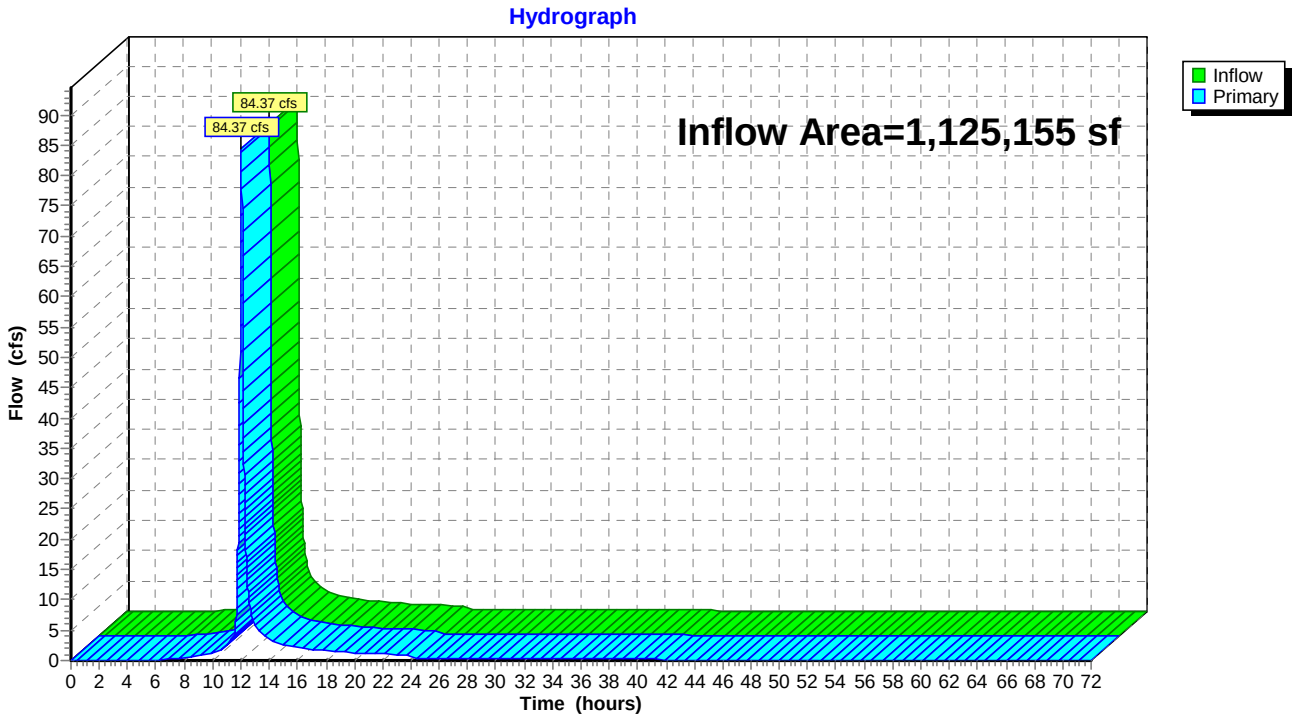


Summary for Link 1L: Combined Outflow

Inflow Area = 1,125,155 sf, 55.48% Impervious, Inflow Depth = 2.49" for 10-Year event
Inflow = 84.37 cfs @ 12.03 hrs, Volume= 233,213 cf
Primary = 84.37 cfs @ 12.03 hrs, Volume= 233,213 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 1L: Combined Outflow



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1S: Pre-Developed Runoff Area=24.880 ac 0.00% Impervious Runoff Depth=3.13"
Flow Length=676' Tc=11.2 min CN=90 Runoff=110.47 cfs 282,532 cf

Subcatchment 2S: Post-Developed to Runoff Area=8.860 ac 58.35% Impervious Runoff Depth=3.23"
Tc=10.0 min CN=91 Runoff=41.90 cfs 103,830 cf

Subcatchment 3S: Post-Developed Runoff Area=16.970 ac 53.98% Impervious Runoff Depth=3.13"
Tc=10.0 min CN=90 Runoff=78.42 cfs 192,708 cf

Pond 1P: New North Basin Peak Elev=998.05' Storage=30,483 cf Inflow=41.90 cfs 103,830 cf
Outflow=34.34 cfs 103,637 cf

Link 1L: Combined Outflow Inflow=109.88 cfs 296,344 cf
Primary=109.88 cfs 296,344 cf

Summary for Subcatchment 1S: Pre-Developed

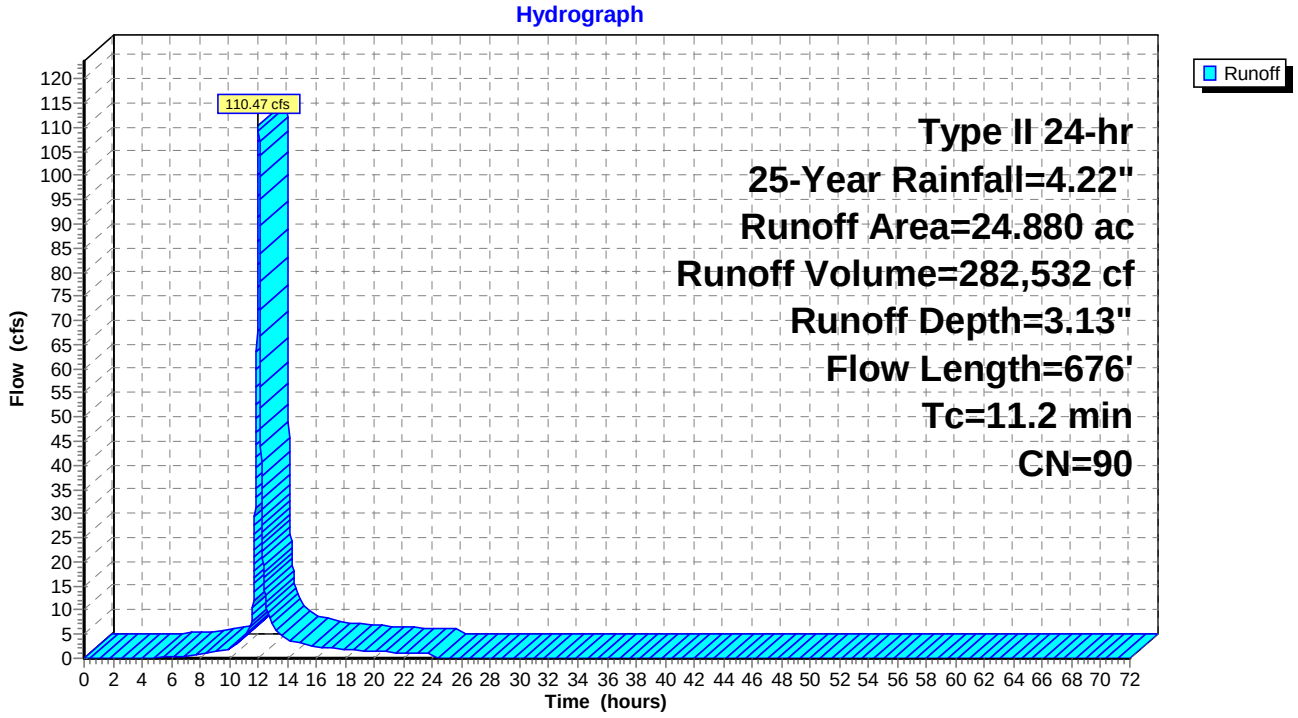
Runoff = 110.47 cfs @ 12.03 hrs, Volume= 282,532 cf, Depth= 3.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-Year Rainfall=4.22"

Area (ac)	CN	Description
18.410	96	Gravel surface, HSG C
6.470	74	>75% Grass cover, Good, HSG C
24.880	90	Weighted Average
24.880		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	300	0.0070	0.51		**Sheet Flow,** n= 0.025 P2= 2.43"
1.4	376	0.0730	4.35		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.2	676	Total			

Subcatchment 1S: Pre-Developed



Summary for Subcatchment 2S: Post-Developed to North Basin

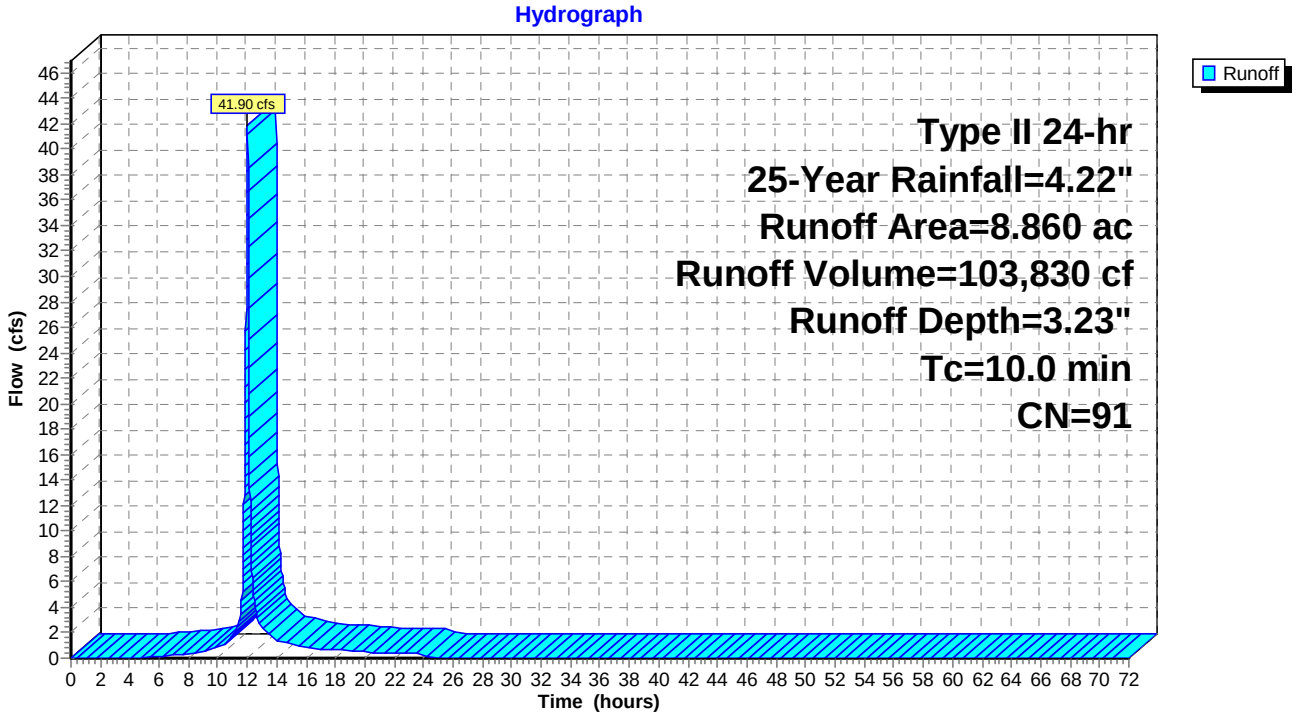
Runoff = 41.90 cfs @ 12.01 hrs, Volume= 103,830 cf, Depth= 3.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-Year Rainfall=4.22"

Area (ac)	CN	Description
5.050	98	Paved parking, HSG D
0.120	98	Water Surface, HSG D
3.690	80	>75% Grass cover, Good, HSG D
8.860	91	Weighted Average
3.690		41.65% Pervious Area
5.170		58.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2S: Post-Developed to North Basin



Summary for Subcatchment 3S: Post-Developed (Undetained)

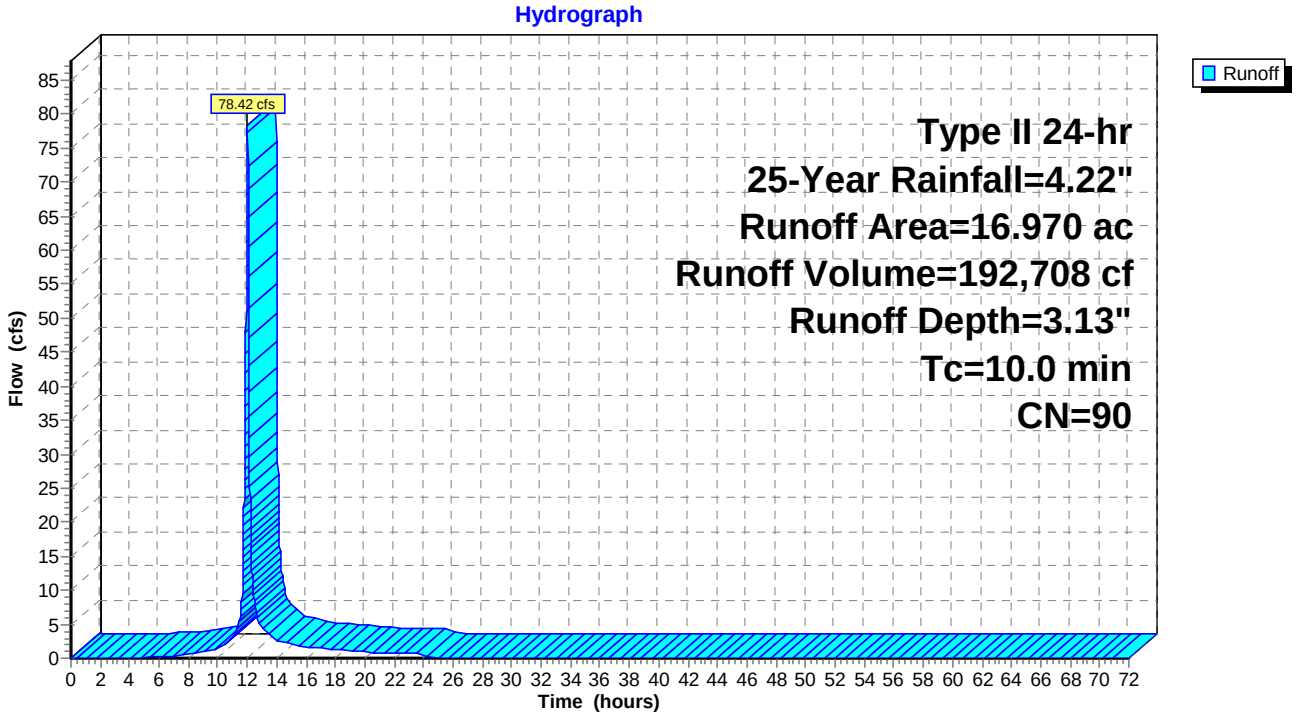
Runoff = 78.42 cfs @ 12.01 hrs, Volume= 192,708 cf, Depth= 3.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-Year Rainfall=4.22"

Area (ac)	CN	Description
8.280	98	Paved parking, HSG D
7.810	80	>75% Grass cover, Good, HSG D
0.880	98	Paved parking, HSG D
16.970	90	Weighted Average
7.810		46.02% Pervious Area
9.160		53.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 3S: Post-Developed (Undetained)



Summary for Pond 1P: New North Basin

Inflow Area = 385,942 sf, 58.35% Impervious, Inflow Depth = 3.23" for 25-Year event
Inflow = 41.90 cfs @ 12.01 hrs, Volume= 103,830 cf
Outflow = 34.34 cfs @ 12.07 hrs, Volume= 103,637 cf, Atten= 18%, Lag= 3.6 min
Primary = 34.34 cfs @ 12.07 hrs, Volume= 103,637 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 998.05' @ 12.07 hrs Surf.Area= 11,999 sf Storage= 30,483 cf

Plug-Flow detention time= 285.0 min calculated for 103,622 cf (100% of inflow)
Center-of-Mass det. time= 284.2 min (1,077.2 - 793.0)

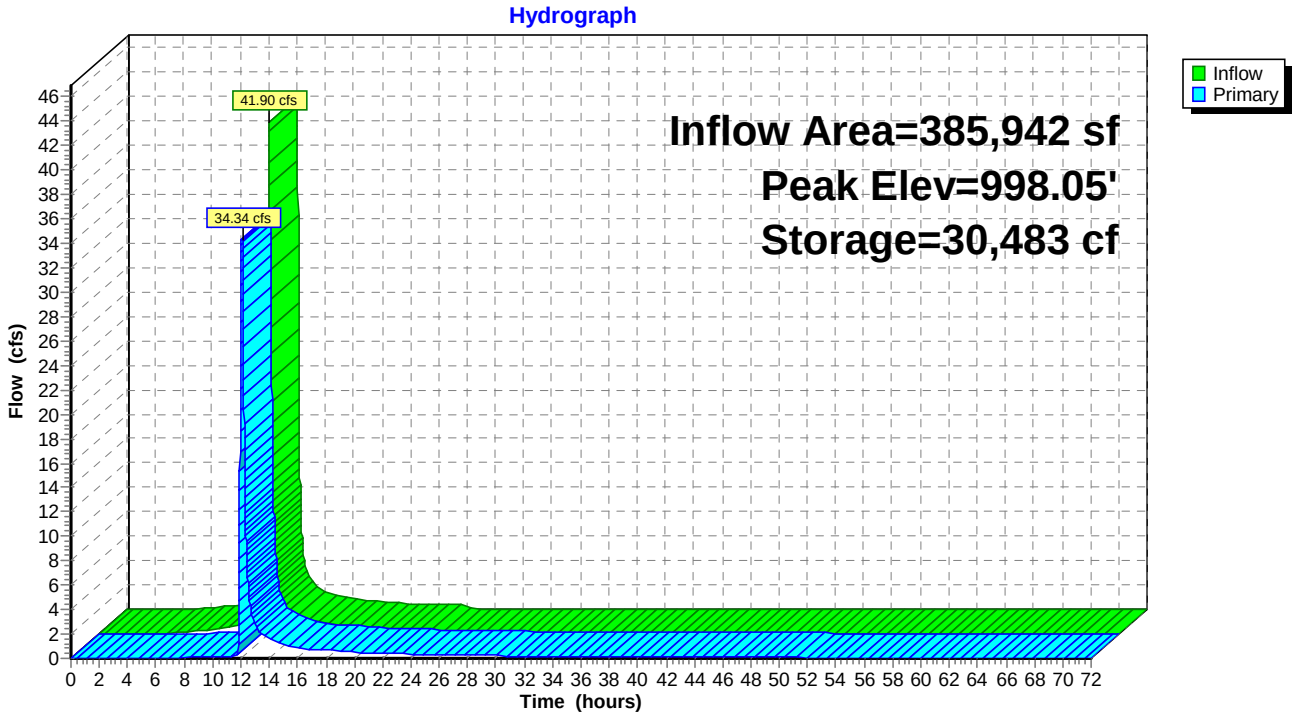
Volume	Invert	Avail.Storage	Storage Description
#1	994.50'	50,041 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
994.50	5,392	0	0
995.00	6,233	2,906	2,906
996.00	7,981	7,107	10,013
997.00	9,903	8,942	18,955
998.00	11,889	10,896	29,851
999.00	13,975	12,932	42,783
999.50	15,056	7,258	50,041

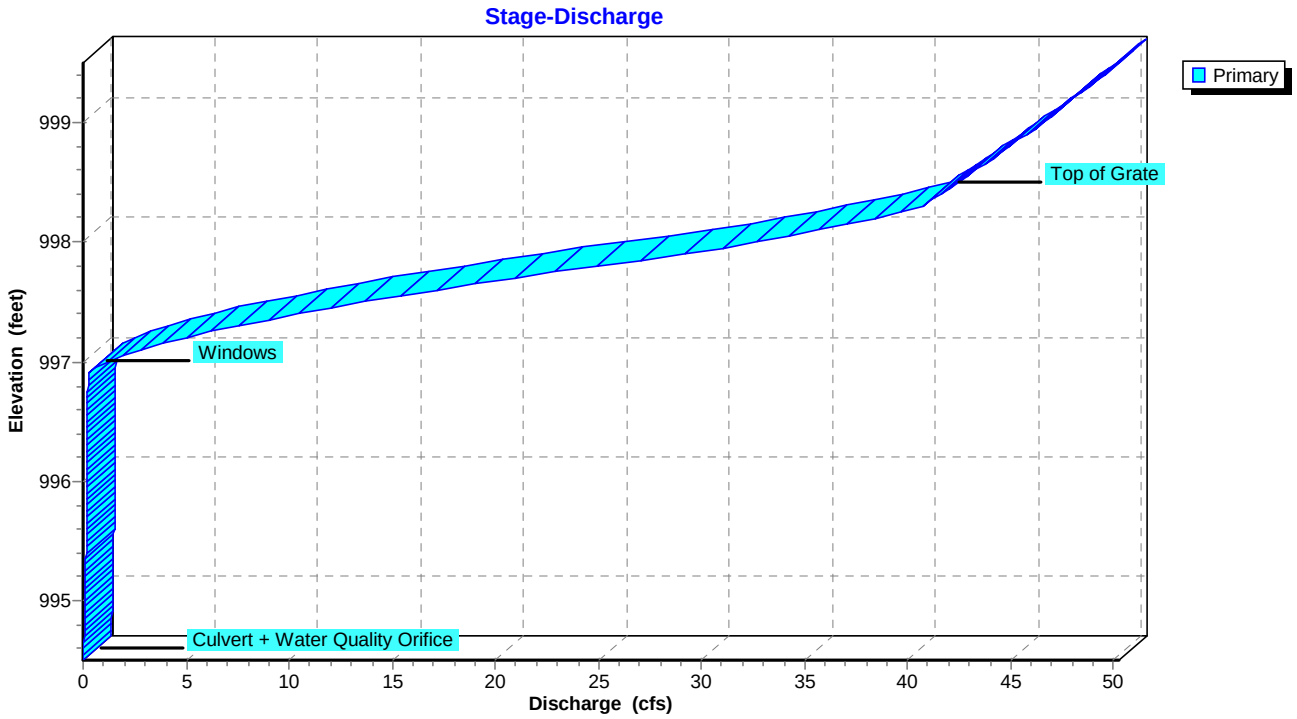
Device	Routing	Invert	Outlet Devices
#1	Primary	994.50'	**36.0" Round Culvert** L= 26.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 994.50' / 994.25' S= 0.0096 '/' Cc= 0.900 n= 0.015, Flow Area= 7.07 sf
#2	Device 1	994.50'	**2.5" Vert. Water Quality Orifice** C= 0.600
#3	Device 1	996.90'	**36.0" W x 12.0" H Vert. Windows X 3.00** C= 0.600
#4	Device 1	998.40'	**1.0" x 22.0" Horiz. Top of Grate** X 12 rows C= 0.600 in 24.0" x 24.0" Grate (46% open area) Limited to weir flow at low heads

Primary OutFlow Max=34.33 cfs @ 12.07 hrs HW=998.05' (Free Discharge)
└**1=Culvert** (Passes 34.33 cfs of 38.50 cfs potential flow)
  ├**2=Water Quality Orifice** (Orifice Controls 0.30 cfs @ 8.94 fps)
  ├**3=Windows** (Orifice Controls 34.03 cfs @ 3.78 fps)
  └**4=Top of Grate** (Controls 0.00 cfs)

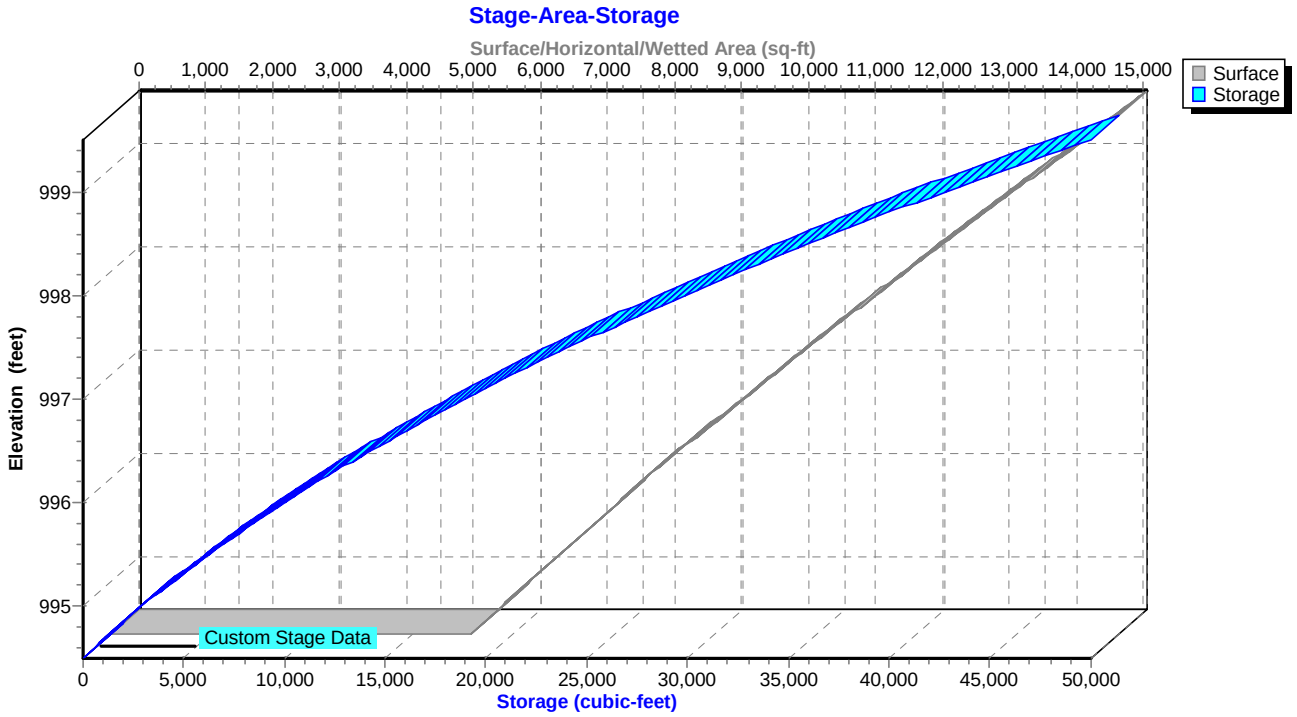
Pond 1P: New North Basin



Pond 1P: New North Basin



Pond 1P: New North Basin

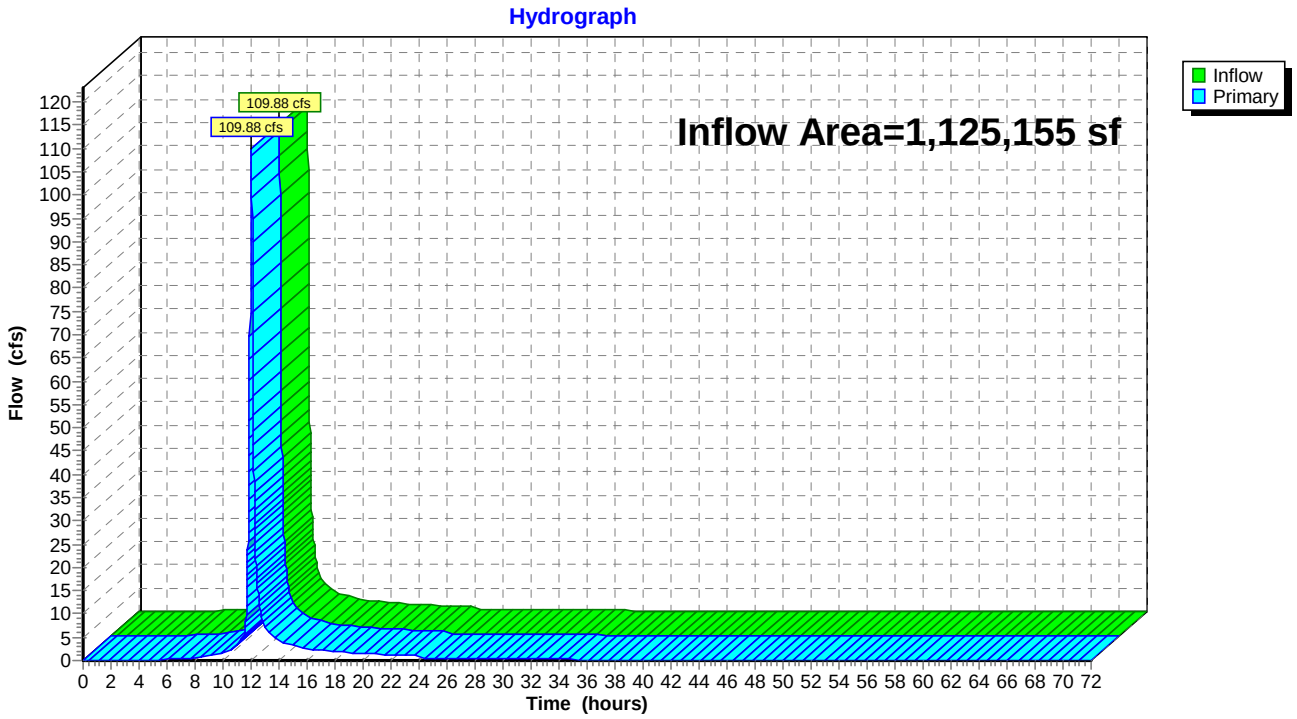


Summary for Link 1L: Combined Outflow

Inflow Area = 1,125,155 sf, 55.48% Impervious, Inflow Depth = 3.16" for 25-Year event
Inflow = 109.88 cfs @ 12.02 hrs, Volume= 296,344 cf
Primary = 109.88 cfs @ 12.02 hrs, Volume= 296,344 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 1L: Combined Outflow



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1S: Pre-Developed Runoff Area=24.880 ac 0.00% Impervious Runoff Depth=3.69"
Flow Length=676' Tc=11.2 min CN=90 Runoff=129.22 cfs 333,558 cf

Subcatchment 2S: Post-Developed to Runoff Area=8.860 ac 58.35% Impervious Runoff Depth=3.80"
Tc=10.0 min CN=91 Runoff=48.81 cfs 122,145 cf

Subcatchment 3S: Post-Developed Runoff Area=16.970 ac 53.98% Impervious Runoff Depth=3.69"
Tc=10.0 min CN=90 Runoff=91.71 cfs 227,511 cf

Pond 1P: New North Basin Peak Elev=998.24' Storage=32,745 cf Inflow=48.81 cfs 122,145 cf
Outflow=39.36 cfs 121,950 cf

Link 1L: Combined Outflow Inflow=128.00 cfs 349,461 cf
Primary=128.00 cfs 349,461 cf

Summary for Subcatchment 1S: Pre-Developed

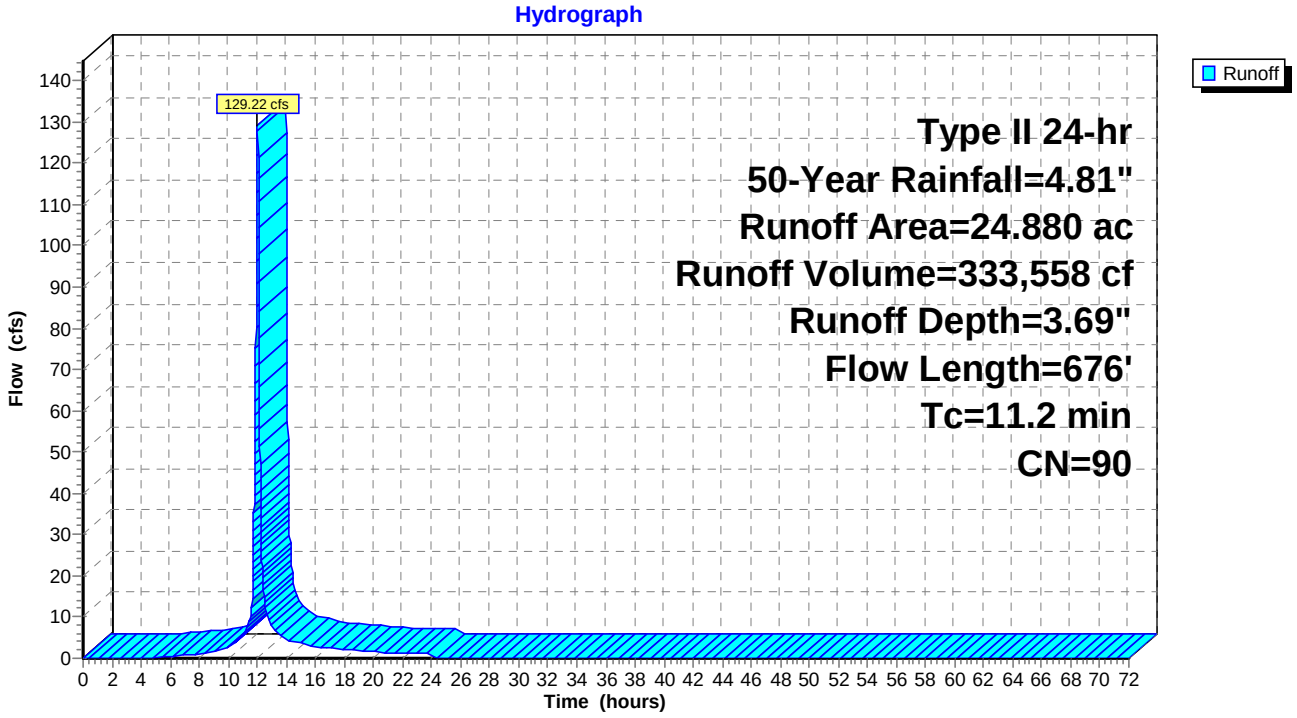
Runoff = 129.22 cfs @ 12.03 hrs, Volume= 333,558 cf, Depth= 3.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 50-Year Rainfall=4.81"

Area (ac)	CN	Description
18.410	96	Gravel surface, HSG C
6.470	74	>75% Grass cover, Good, HSG C
24.880	90	Weighted Average
24.880		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	300	0.0070	0.51		**Sheet Flow,** n= 0.025 P2= 2.43"
1.4	376	0.0730	4.35		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.2	676	Total			

Subcatchment 1S: Pre-Developed



Summary for Subcatchment 2S: Post-Developed to North Basin

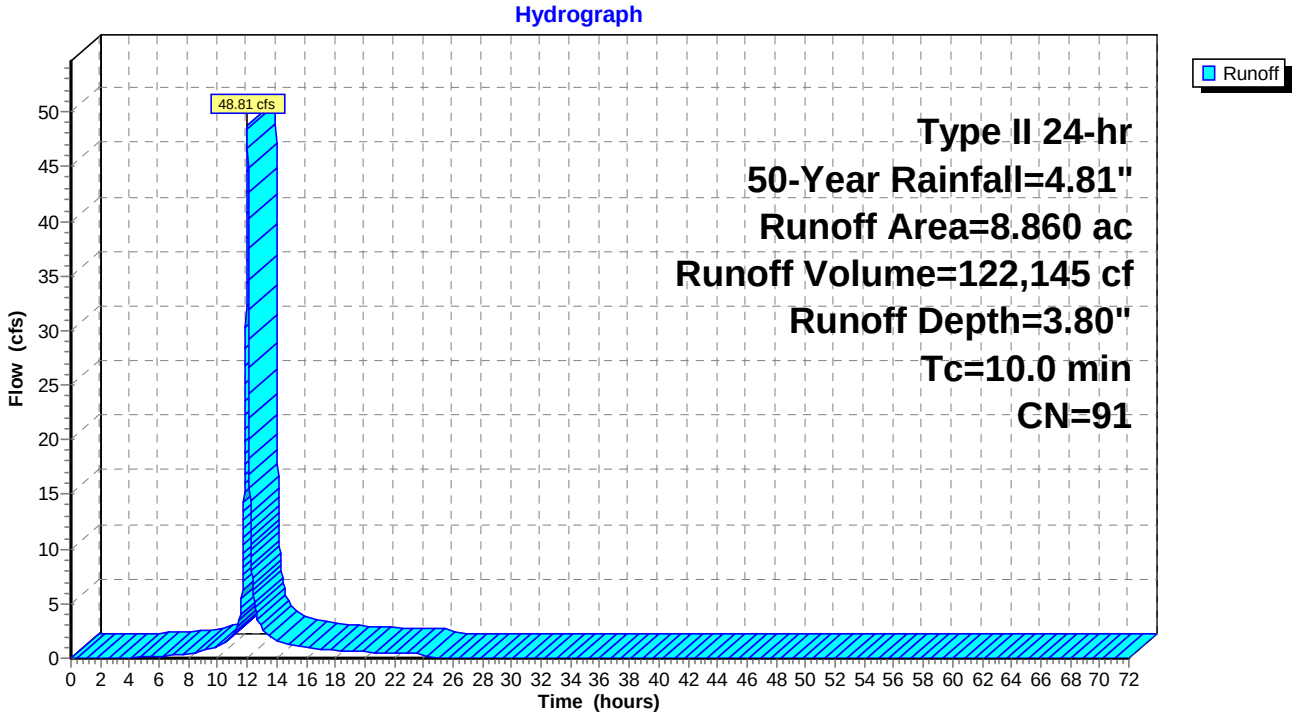
Runoff = 48.81 cfs @ 12.01 hrs, Volume= 122,145 cf, Depth= 3.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 50-Year Rainfall=4.81"

Area (ac)	CN	Description
5.050	98	Paved parking, HSG D
0.120	98	Water Surface, HSG D
3.690	80	>75% Grass cover, Good, HSG D
8.860	91	Weighted Average
3.690		41.65% Pervious Area
5.170		58.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2S: Post-Developed to North Basin



Summary for Subcatchment 3S: Post-Developed (Undetained)

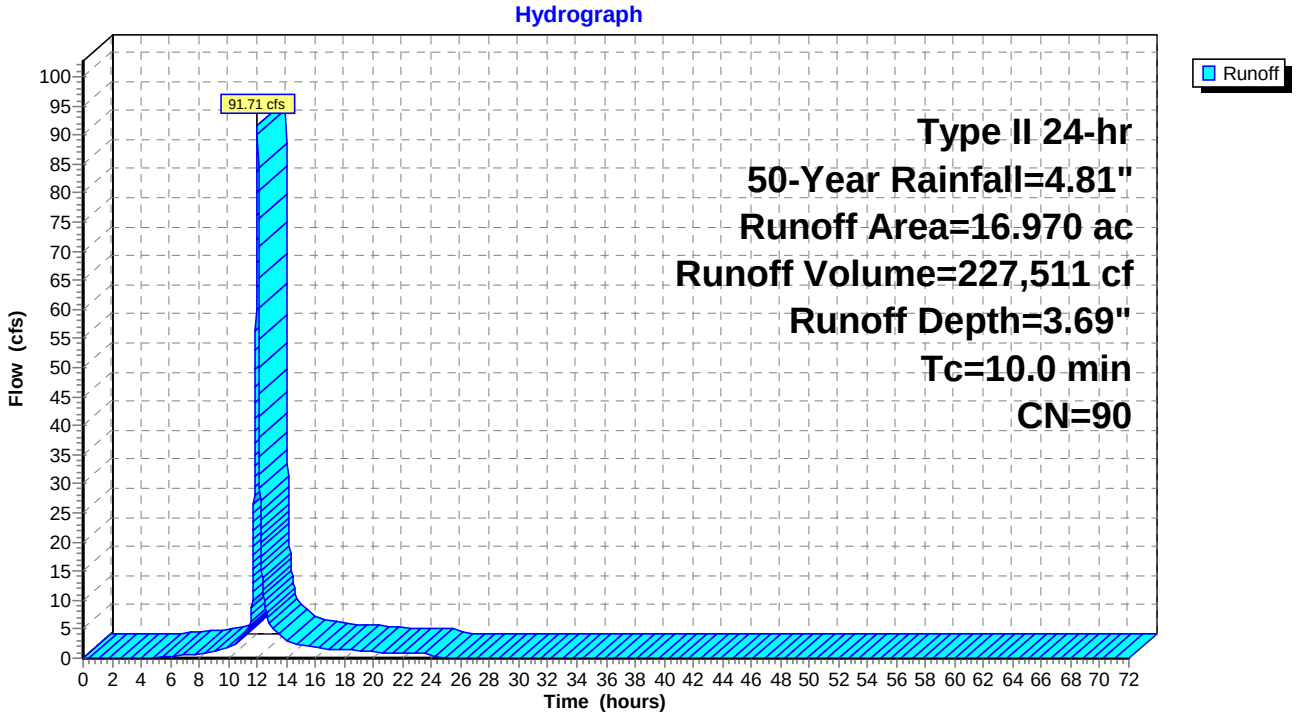
Runoff = 91.71 cfs @ 12.01 hrs, Volume= 227,511 cf, Depth= 3.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 50-Year Rainfall=4.81"

Area (ac)	CN	Description
8.280	98	Paved parking, HSG D
7.810	80	>75% Grass cover, Good, HSG D
0.880	98	Paved parking, HSG D
16.970	90	Weighted Average
7.810		46.02% Pervious Area
9.160		53.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 3S: Post-Developed (Undetained)



Summary for Pond 1P: New North Basin

Inflow Area = 385,942 sf, 58.35% Impervious, Inflow Depth = 3.80" for 50-Year event
Inflow = 48.81 cfs @ 12.01 hrs, Volume= 122,145 cf
Outflow = 39.36 cfs @ 12.07 hrs, Volume= 121,950 cf, Atten= 19%, Lag= 3.7 min
Primary = 39.36 cfs @ 12.07 hrs, Volume= 121,950 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 998.24' @ 12.07 hrs Surf.Area= 12,386 sf Storage= 32,745 cf

Plug-Flow detention time= 247.9 min calculated for 121,933 cf (100% of inflow)
Center-of-Mass det. time= 247.2 min (1,035.8 - 788.6)

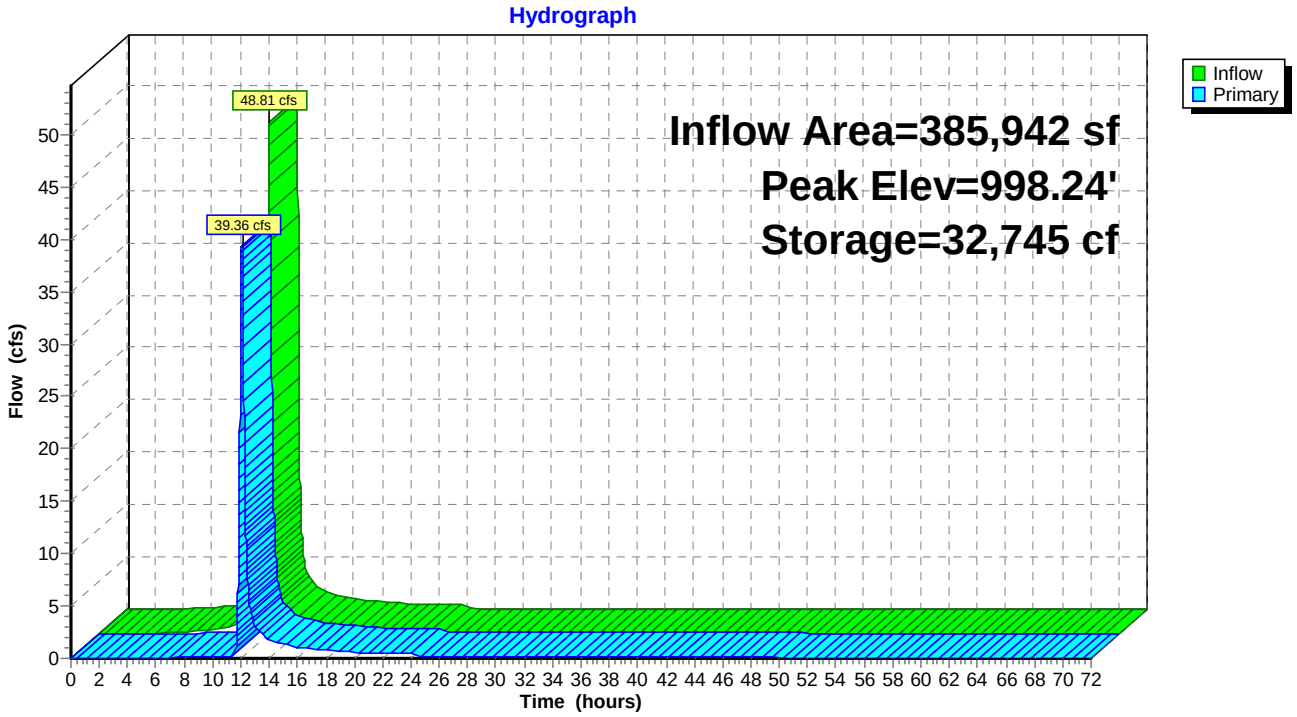
Volume	Invert	Avail.Storage	Storage Description
#1	994.50'	50,041 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
994.50	5,392	0	0
995.00	6,233	2,906	2,906
996.00	7,981	7,107	10,013
997.00	9,903	8,942	18,955
998.00	11,889	10,896	29,851
999.00	13,975	12,932	42,783
999.50	15,056	7,258	50,041

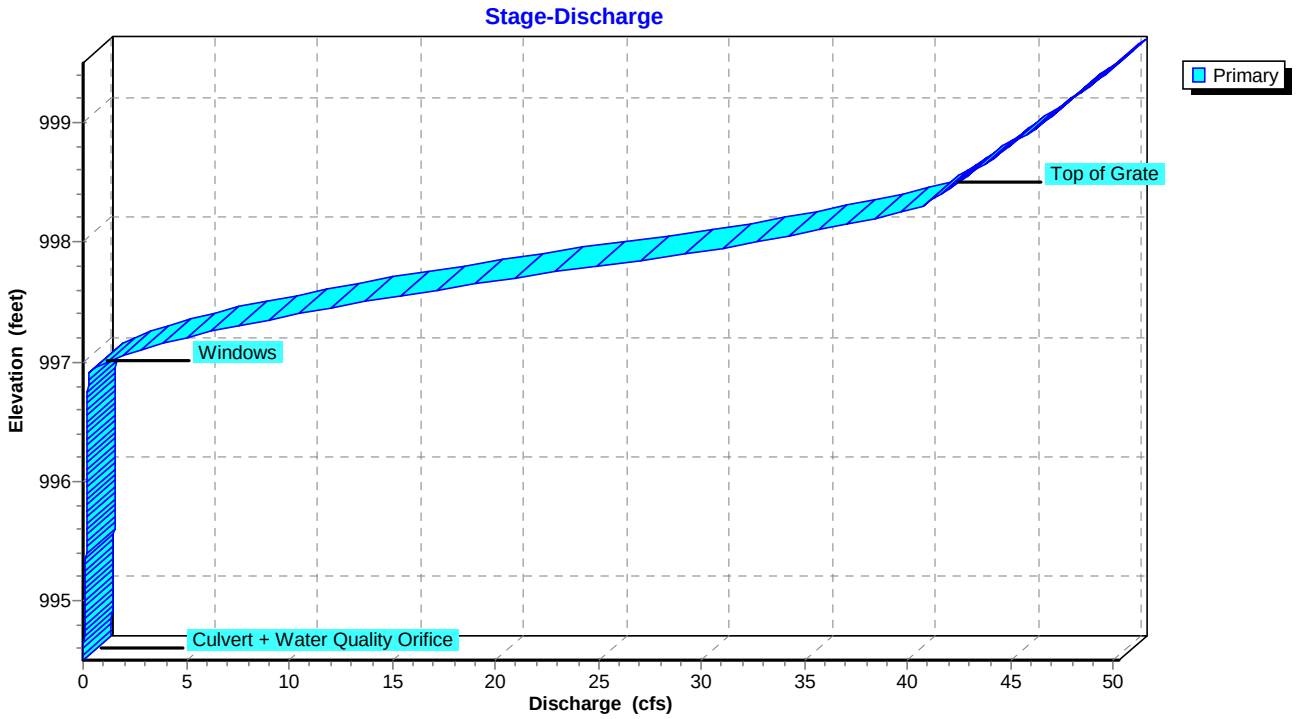
Device	Routing	Invert	Outlet Devices
#1	Primary	994.50'	**36.0" Round Culvert** L= 26.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 994.50' / 994.25' S= 0.0096 '/' Cc= 0.900 n= 0.015, Flow Area= 7.07 sf
#2	Device 1	994.50'	**2.5" Vert. Water Quality Orifice** C= 0.600
#3	Device 1	996.90'	**36.0" W x 12.0" H Vert. Windows X 3.00** C= 0.600
#4	Device 1	998.40'	**1.0" x 22.0" Horiz. Top of Grate** X 12 rows C= 0.600 in 24.0" x 24.0" Grate (46% open area) Limited to weir flow at low heads

Primary OutFlow Max=39.34 cfs @ 12.07 hrs HW=998.24' (Free Discharge)
└**1=Culvert** (Passes 39.34 cfs of 40.19 cfs potential flow)
  ├**2=Water Quality Orifice** (Orifice Controls 0.31 cfs @ 9.18 fps)
  ├**3=Windows** (Orifice Controls 39.03 cfs @ 4.34 fps)
  └**4=Top of Grate** (Controls 0.00 cfs)

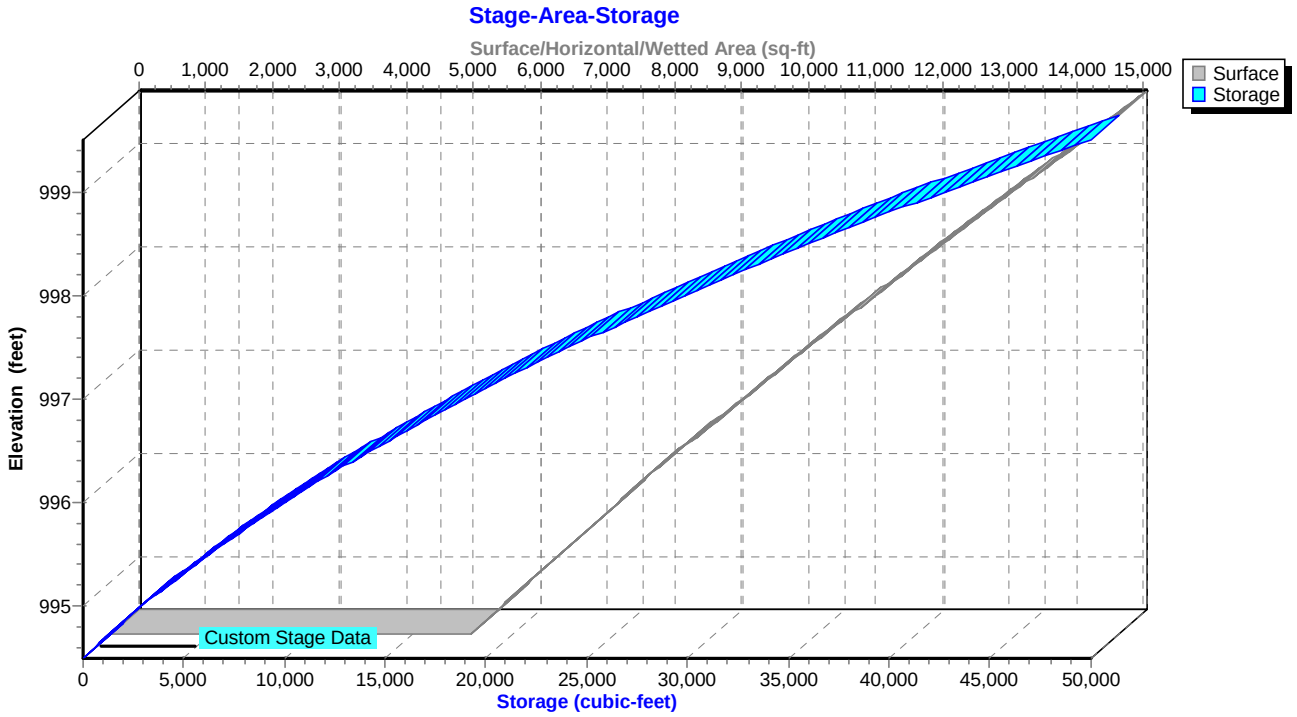
Pond 1P: New North Basin



Pond 1P: New North Basin



Pond 1P: New North Basin

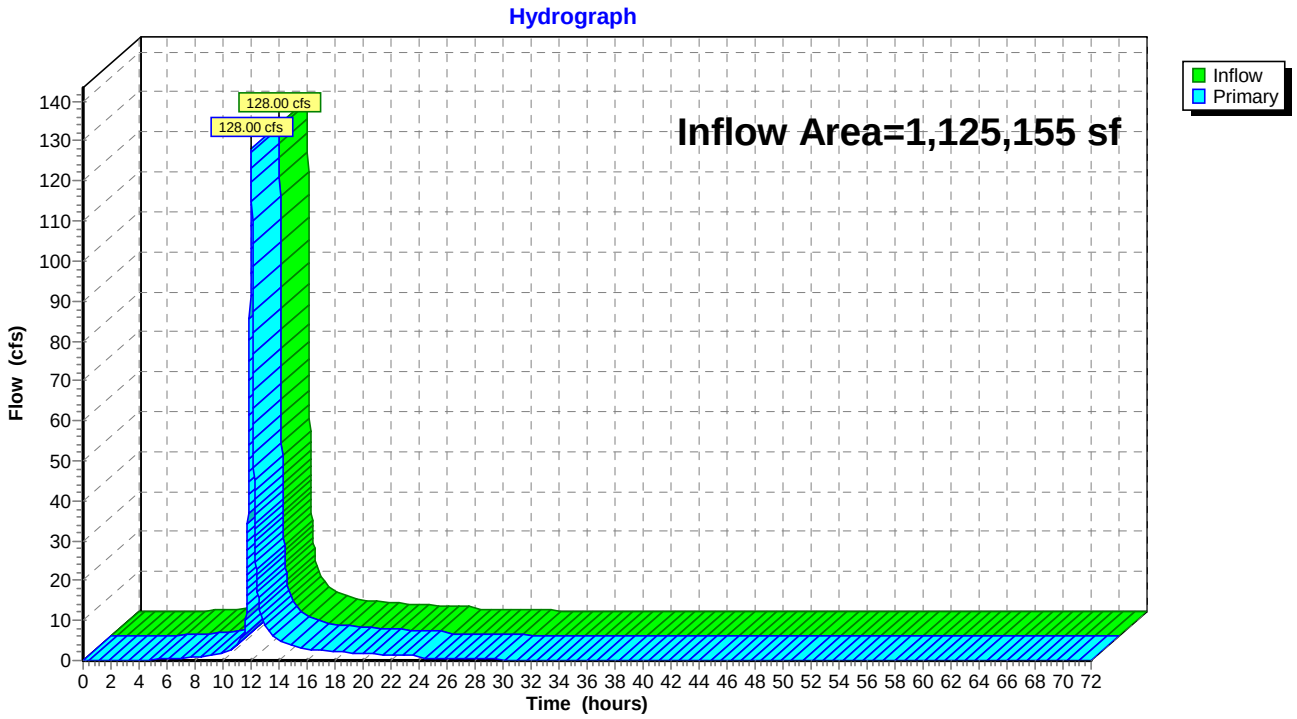


Summary for Link 1L: Combined Outflow

Inflow Area = 1,125,155 sf, 55.48% Impervious, Inflow Depth = 3.73" for 50-Year event
Inflow = 128.00 cfs @ 12.02 hrs, Volume= 349,461 cf
Primary = 128.00 cfs @ 12.02 hrs, Volume= 349,461 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 1L: Combined Outflow



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1S: Pre-Developed Runoff Area=24.880 ac 0.00% Impervious Runoff Depth=4.31"
Flow Length=676' Tc=11.2 min CN=90 Runoff=149.49 cfs 389,384 cf

Subcatchment 2S: Post-Developed to Runoff Area=8.860 ac 58.35% Impervious Runoff Depth=4.42"
Tc=10.0 min CN=91 Runoff=56.29 cfs 142,152 cf

Subcatchment 3S: Post-Developed Runoff Area=16.970 ac 53.98% Impervious Runoff Depth=4.31"
Tc=10.0 min CN=90 Runoff=106.07 cfs 265,589 cf

Pond 1P: New North Basin Peak Elev=998.47' Storage=35,641 cf Inflow=56.29 cfs 142,152 cf
Outflow=42.21 cfs 141,957 cf

Link 1L: Combined Outflow Inflow=146.44 cfs 407,546 cf
Primary=146.44 cfs 407,546 cf

Summary for Subcatchment 1S: Pre-Developed

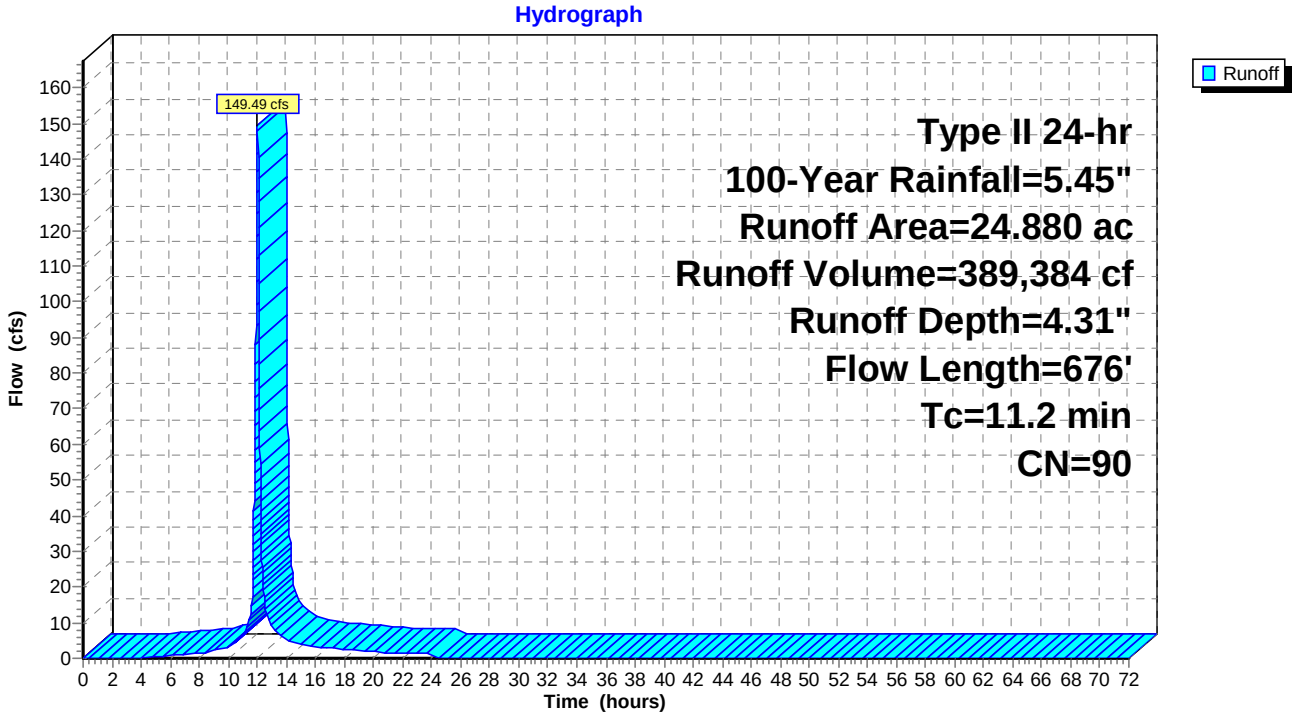
Runoff = 149.49 cfs @ 12.03 hrs, Volume= 389,384 cf, Depth= 4.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Year Rainfall=5.45"

Area (ac)	CN	Description
18.410	96	Gravel surface, HSG C
6.470	74	>75% Grass cover, Good, HSG C
24.880	90	Weighted Average
24.880		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	300	0.0070	0.51		**Sheet Flow,** n= 0.025 P2= 2.43"
1.4	376	0.0730	4.35		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.2	676	Total			

Subcatchment 1S: Pre-Developed



Summary for Subcatchment 2S: Post-Developed to North Basin

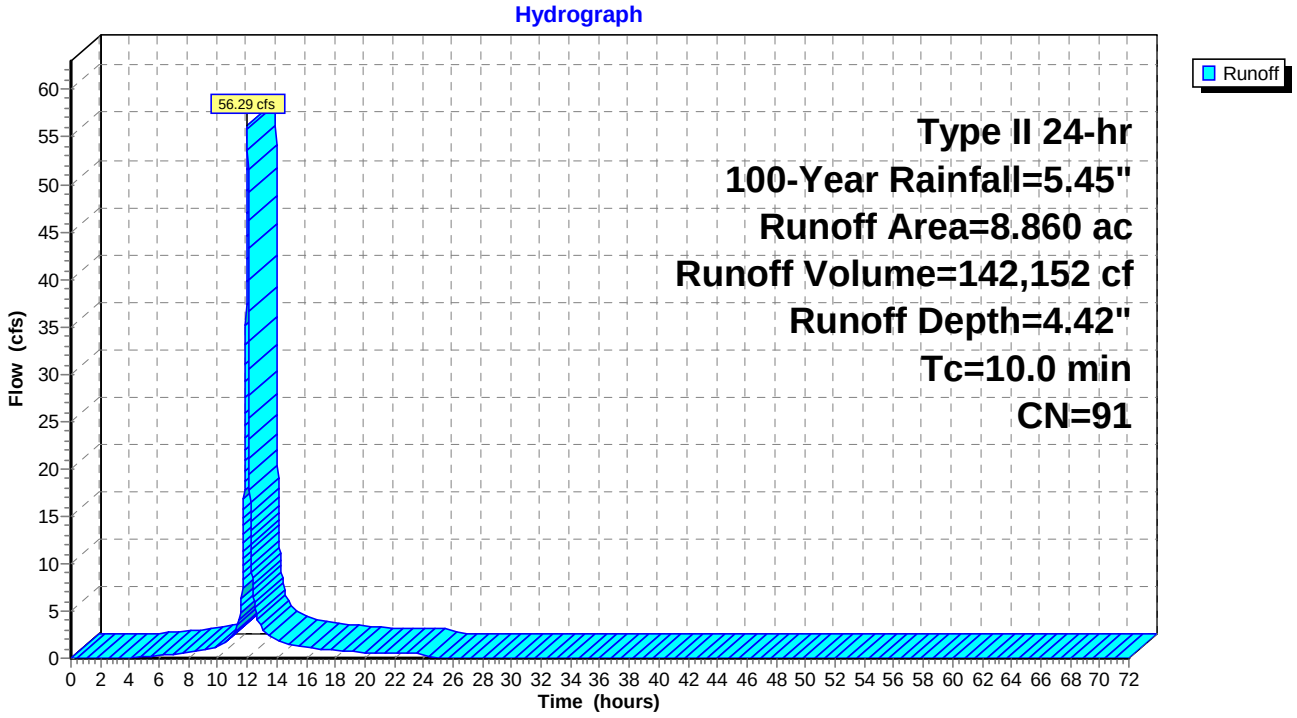
Runoff = 56.29 cfs @ 12.01 hrs, Volume= 142,152 cf, Depth= 4.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Year Rainfall=5.45"

Area (ac)	CN	Description
5.050	98	Paved parking, HSG D
0.120	98	Water Surface, HSG D
3.690	80	>75% Grass cover, Good, HSG D
8.860	91	Weighted Average
3.690		41.65% Pervious Area
5.170		58.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2S: Post-Developed to North Basin



Summary for Subcatchment 3S: Post-Developed (Undetained)

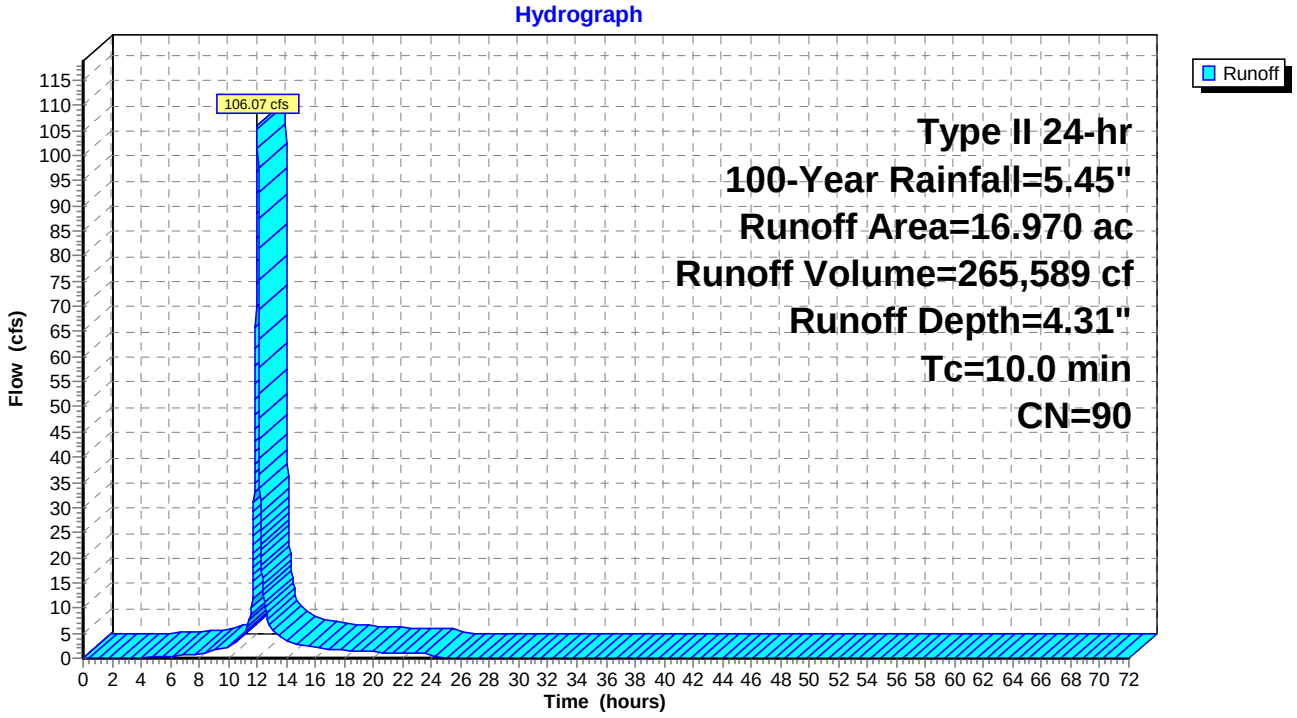
Runoff = 106.07 cfs @ 12.01 hrs, Volume= 265,589 cf, Depth= 4.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Year Rainfall=5.45"

Area (ac)	CN	Description
8.280	98	Paved parking, HSG D
7.810	80	>75% Grass cover, Good, HSG D
0.880	98	Paved parking, HSG D
16.970	90	Weighted Average
7.810		46.02% Pervious Area
9.160		53.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 3S: Post-Developed (Undetained)



Summary for Pond 1P: New North Basin

Inflow Area = 385,942 sf, 58.35% Impervious, Inflow Depth = 4.42" for 100-Year event
Inflow = 56.29 cfs @ 12.01 hrs, Volume= 142,152 cf
Outflow = 42.21 cfs @ 12.08 hrs, Volume= 141,957 cf, Atten= 25%, Lag= 4.3 min
Primary = 42.21 cfs @ 12.08 hrs, Volume= 141,957 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 998.47' @ 12.08 hrs Surf.Area= 12,865 sf Storage= 35,641 cf

Plug-Flow detention time= 218.7 min calculated for 141,957 cf (100% of inflow)
Center-of-Mass det. time= 217.8 min (1,002.3 - 784.4)

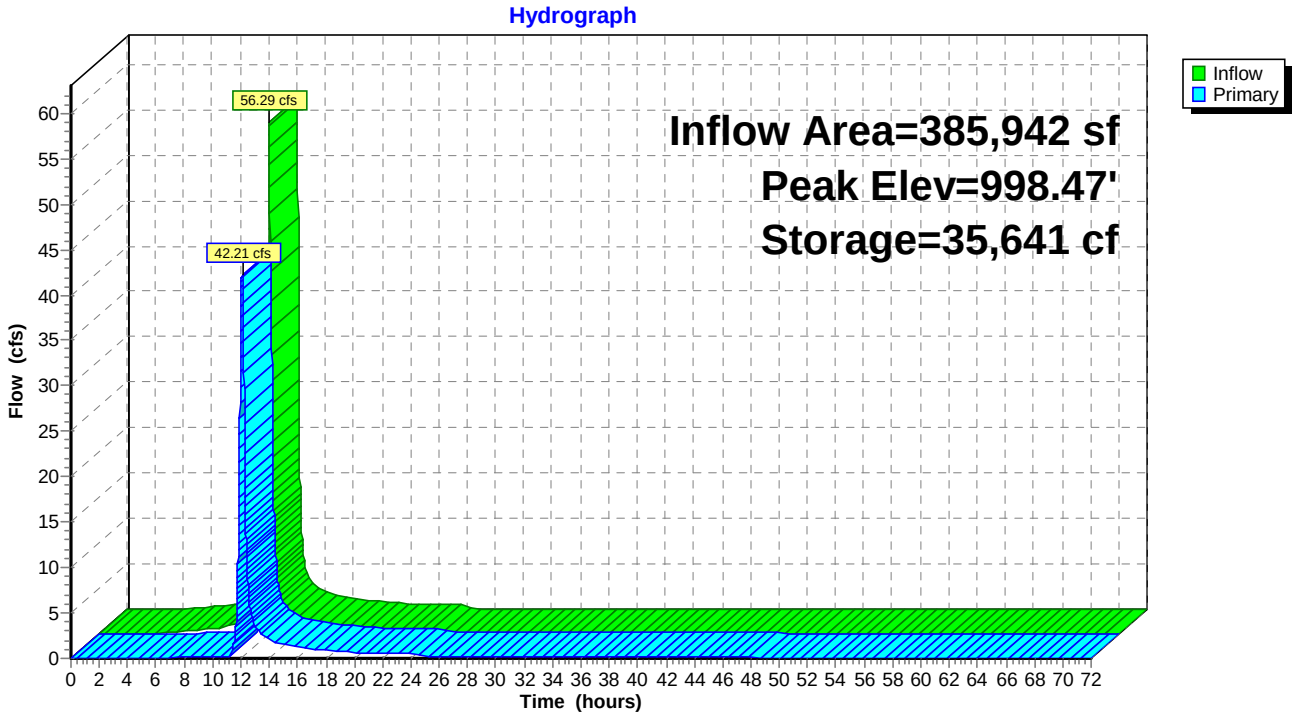
Volume	Invert	Avail.Storage	Storage Description
#1	994.50'	50,041 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
994.50	5,392	0	0
995.00	6,233	2,906	2,906
996.00	7,981	7,107	10,013
997.00	9,903	8,942	18,955
998.00	11,889	10,896	29,851
999.00	13,975	12,932	42,783
999.50	15,056	7,258	50,041

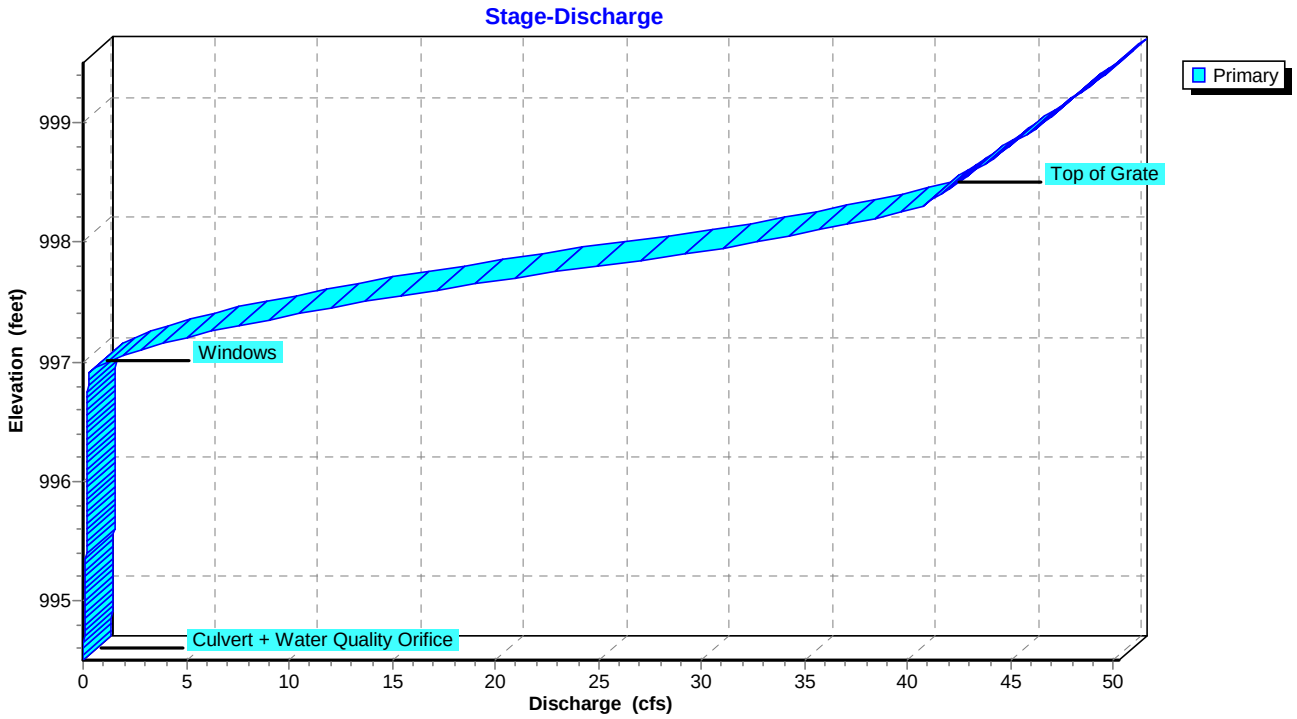
Device	Routing	Invert	Outlet Devices
#1	Primary	994.50'	**36.0" Round Culvert** L= 26.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 994.50' / 994.25' S= 0.0096 '/' Cc= 0.900 n= 0.015, Flow Area= 7.07 sf
#2	Device 1	994.50'	**2.5" Vert. Water Quality Orifice** C= 0.600
#3	Device 1	996.90'	**36.0" W x 12.0" H Vert. Windows X 3.00** C= 0.600
#4	Device 1	998.40'	**1.0" x 22.0" Horiz. Top of Grate** X 12 rows C= 0.600 in 24.0" x 24.0" Grate (46% open area) Limited to weir flow at low heads

Primary OutFlow Max=42.20 cfs @ 12.08 hrs HW=998.47' (Free Discharge)
└**1=Culvert** (Inlet Controls 42.20 cfs @ 5.97 fps)
  ├**2=Water Quality Orifice** (Passes < 0.32 cfs potential flow)
  ├**3=Windows** (Passes < 44.33 cfs potential flow)
  └**4=Top of Grate** (Passes < 0.45 cfs potential flow)

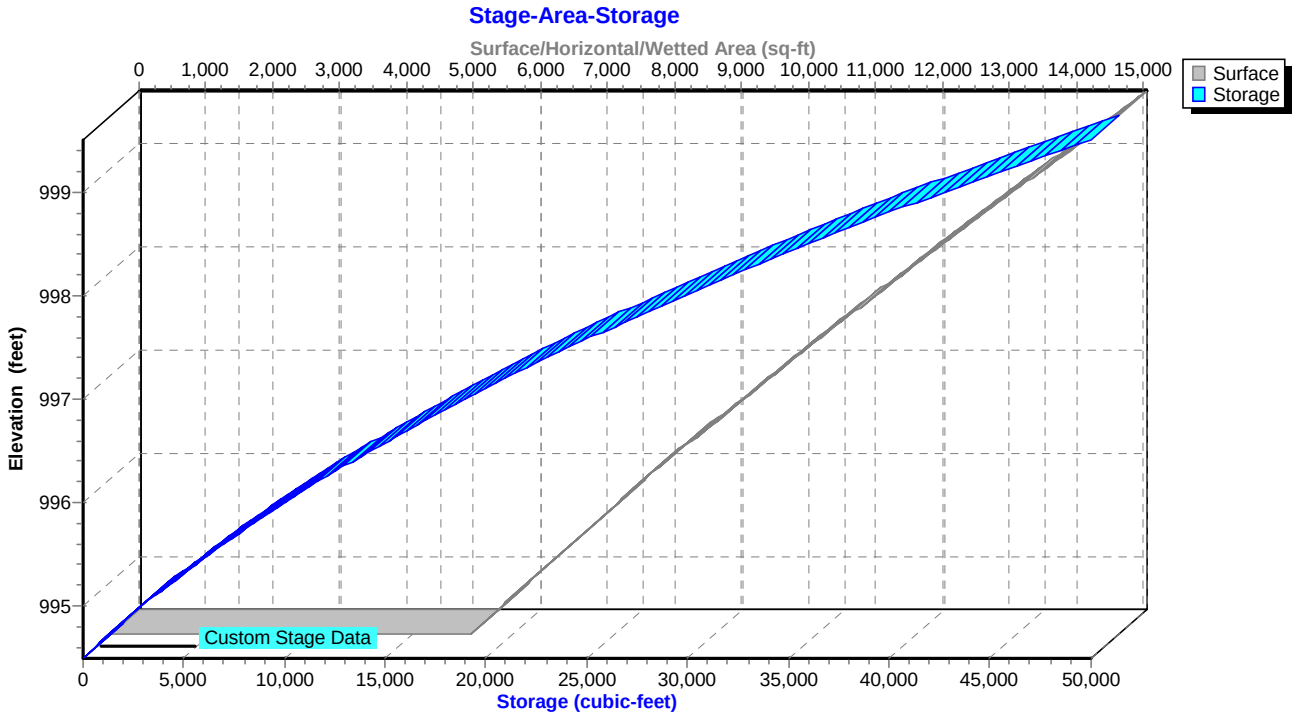
Pond 1P: New North Basin



Pond 1P: New North Basin



Pond 1P: New North Basin

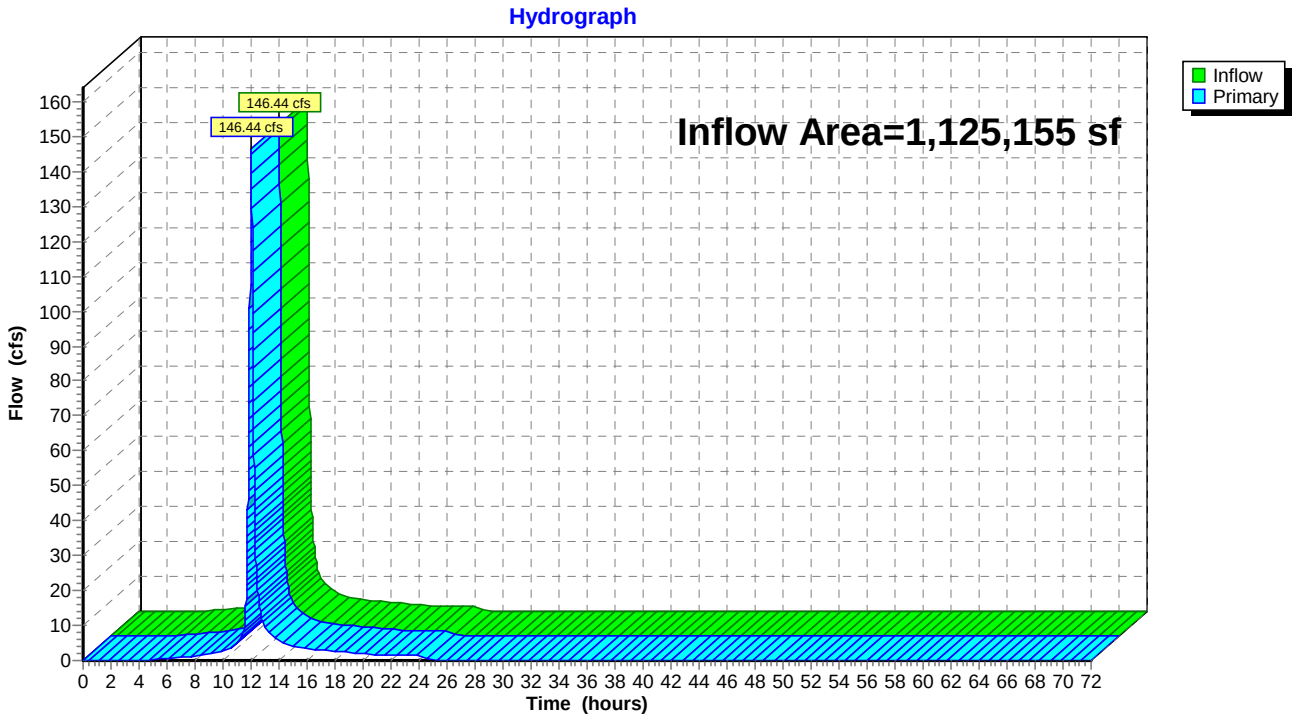


Summary for Link 1L: Combined Outflow

Inflow Area = 1,125,155 sf, 55.48% Impervious, Inflow Depth = 4.35" for 100-Year event
Inflow = 146.44 cfs @ 12.02 hrs, Volume= 407,546 cf
Primary = 146.44 cfs @ 12.02 hrs, Volume= 407,546 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 1L: Combined Outflow



Letter of Transmittal

Date: 03-28-2025

City of Macedonia
9691 Valley View Rd
Macedonia, OH 44056

Susan Roganish
Building Department Assistant

From: Weber Engineering Services, LLC
2555 Hartville Road, Suite B
Rootstown, OH 44272
Matthew L. Weber, P.E.
matt@webercivil.com

PNFM
WES Project No. 2024-317

Quantity	Description
1 Each	Application
3 Each	Renderings, Exterior Elevations, Material Sample Board, Landscape Plan, Compliant Parking Plan, Site Photometrics Plan, Site Line Study from Entry Plan, Site Line Study from Residential (11x17) Color
1 Each	All the above (24x36) Color
3 Each	Site Development Plans (11x17) Black & White
1 Each	Site Development Plans (24x36) Black & White
1 Each	Storm Water Management Report (Black & White)
	Have a Blessed Day. Matthew L. Weber, P.E.

Memorandum

TO: Nicholas Molnar, Mayor
and Macedonia Planning Commission

FROM: Brian M. Frantz, AICP

SUBJECT: 8854 Valley View Road – Final Plan Approval (New Manufacturing Building)

DATE: April 12, 2025

I have reviewed an application (including a final development plan and supplemental materials) dated March 28, 2025 in connection with this request and offer the Planning Commission the following comments for their consideration:

Background

This final plan report focuses on the applicant's proposal to construct a 48-foot tall, 238,920 square foot (previously 238,070 sq.ft.) manufacturing building, on the property located at 8854 Valley View Road. The subject site contains two parcels. The first is 1.44 acres and fronts on Valley View Road. This frontage parcel is zoned R-1 Single-Family Residential and contains an existing driveway to serve the back land that is 38.79 acres and zoned General Industrial (see purple parcel in the image to the right) A portion of this 38.79 acre back property is located in Northfield Center Township and shown in the red triangle in the image to the right.

The site plan proposes the 238,920 square foot building, a location for future building expansion, rail spurs, two stormwater management basins, and fairly dense landscaping to assist with screening the building from Valley View Road and the residential neighborhoods to the east. A 75-foot access drive (previously shown as an easement) is provided to the south and coming from the existing entrance driveway. The purpose of this driveway remains unknown, but based on the aerial photograph it might be used to gain access to the trailer parking to the south of the site. The purpose of this driveway from a use standpoint needs to be discussed with the Commission. As it stands, the driveway is illustrated without a turnaround for safety forces.

Analysis – Use

The G-I District permits warehousing (via the L-I District) and specifically permits outdoor storage with certain screening/setback standards. Access to the G-I land (the backland) is provided through an existing driveway and is zoned residential. To the best of my knowledge, a driveway located through residentially zoned lands to access non-residential property is acceptable and does not appear to be addressed in the Planning and Zoning Code.

Analysis – Final Development Plan

1) The proposed plan adheres to the setback standards outlined in Section 1169.04 (f) of the Code.

2) The proposed building height of 46 feet adheres to the maximum height of 60 feet outlined in Section 1169.04 (g) of the Code.

3) The legend on site plan states that 129 off-street parking spaces (previously 132) are provided, and the building is proposed to be 238,920 square feet. Sheet PP.1 provides an analysis of parking counts and states that 130 spaces are proposed. Section 1171.11 (b) (2) provides for a 20% reduction. Therefore, parking is based on the following:
    a) 22,100 square feet of office is reduced to 17,680 square feet and calculated at one space for every 250 square feet. This yields 71 required parking spaces;
    b) 38,915 square feet of storage is reduced to 31,132 square feet and calculated at one space for every 800 square feet. This yields 39 required parking spaces;
    c) 178,036 square feet of manufacturing is reduced to 142,429 square feet and calculated at one space for every 400 square feet. This yields 357 parking spaces.
    d) The total required off-street parking based on the above break-down is 467. This means the site is deficient by 338 parking spaces if 129 spaces are provided. Sheet PP.1 proposes 387 land-banked parking spaces. However, the Planning Commission doesn't have the ability to waive the parking standard and permit land-banking. **ACTION ITEM: A variance from the Board of Zoning Appeals (BZA) is needed for the reduction and the minor discrepancy between Sheet PP.1 and C102 must be corrected.**

4) Section 1171.11 (e) (2) permits off-street parking in the front yard provided it is screened with landscaping. **ACTION ITEM: Based on discussions with the Planning Commission, the landscape mound is extended slightly to the south to properly screen the parking in front of the building. Moreover, Sheets LOS 1&2 are provided to document the line of site into the property from the main entrance. I believe the front yard parking is adequately screened.**

5) Section 1171.11 (e) (3) sets the maximum drive apron at the property line as 36 feet. **ACTION ITEM: The proposed apron at the property line exceeds the maximum permissible by Code. The applicant must seek a variance from the BZA for the increased width or reduce the apron accordingly.**

6) A 75 foot heavy duty drive is provided to the south to access the land zoned R-1 and located in Northfield Center Township. The purpose of this 75-foot access easement remains unknown, but based on the aerial photograph it might be used to gain access to the trailer parking to the south of the site. As it stands, the driveway is illustrated without a turnaround for safety forces. **ACTION ITEM: The intent of the drive must be provided. The existing trailer parking toward the southern end of the site that is in the City and zoned residential is not permissible.**

7) Sheet E0 addresses site lighting and documents compliance with the City's expectations for site lighting. **ACTION ITEM: None, the revised plan reflects compliance.**

8) Building architecture is documented on Sheet A-301 and proposes a precast wall panel style of construction. **ACTION ITEM: The building architecture is subject to the standards outlined in Section 1172 of the Code. The City's Design Consultant should review the project for compliance with the applicable Code provisions.**

9) Dumpster location is not provided - **COMMENT – The location of a dumpster and related enclosure details must be provided on the final plan. Building mechanical units should also be depicted and methods in place to screen them from view.**

10) Stormwater Management. **COMMENT – Two stormwater management basins are shown on the final plan, along with complete details to achieve a compliant Storm Water Pollution Prevention Plan (SWP3). Any Planning Commission approval must stipulate review and approval of the SWP3 by the City Engineer.**

Conclusion

The final development plan is comprehensive and provides nearly all the details for approval. However, the two issues (parking and drive width) need to be rectified by amending the plan or seeking a variance from the BZA. The other items noted in this report are fairly minor and can be corrected on a revised final plan that, if acceptable to the Commission, can be administratively approved.

If you have any questions or need additional information, please feel free to contact me.

CHAGRIN VALLEY ENGINEERING, LTD.
Creative Engineers. Intelligent Solutions.

M E M O

To: Mayor and Planning Commission

From: Joe Gigliotti, P.E.

Date: 04-03-25

Re: Plan Review Comments: Peak Nano

The plan titled PNFM, dated 03-28-25, has been reviewed. The following comments are offered:

- The plan submitted is a detailed set of plans typically submitted for permitting. This memo will provide only high-level comments on the submittal for Planning Commission purposes. The plans will be reviewed in further detail for administrative permitting separately.

- The plans show two storm water management basins, the design of which will be reviewed for conformance with chapter 920. Additionally, the standard inspection and maintenance agreement for such features would be needed from the applicant as part of final administrative permitting.

- Will the basins be wet or dry ponds?

- Please provide information regarding any future plans for the southerly portion of the site which falls within Northfield Center Township, the plans show a proposed dead end driveway to this area.

- Sanitary service is shown as being provided by a pump station and associated force main, which will outlet into a manhole near the cul-de-sac of Abraham Way. Much of this force main, and the manhole, fall within railroad owned property. The owner will need approval from Summit County DSSS, and the appropriate easement from the railroad, for this installation.

- Paving the rear driveway to the north is the correct thing to do. The most northerly end of this driveway falls within a strip of land owned by the railroad, which also becomes a common driveway with the JWD property. Please provide information regarding the ability to work across the property line and for maintenance of the shared driveway.

- The plan now shows all parking lots and driveways with perimeter concrete curb.

- For retaining walls greater than 48”, the applicant shall submit structural drawings stamped by the structural engineer of record.

- The proposed land bank parking appears to conflict with the southerly storm water management basin.

22999 Forbes Road, Suite B • Cleveland, Ohio 44146-5667 • Phone: 440.439.1999 • Fax: 440.439.1969 • www.cvelimited.com

MACEDONIA PLANNING COMMISSION
PUBLIC HEARING MINUTES
MARCH 17, 2025
5:15 p.m.

CALL TO ORDER

Mr. Westbrooks called the Public Hearing to order at approximately 5:15 p.m.

ROLL CALL:

Present: Mr. Westbrooks, Mr. Wallenhorst, Mr. Roberts, Mr. Cox, and Ms. Meske
City Planner: Mr. Frantz
City Engineer: Mr. Gigliotti
Building Commissioner: Mr. Monaco
City Fire Inspector: Mr. Smith

PROPOSED CONDITIONAL USE APPROVAL TO OPERATE A BUSINESS WITH OUTDOOR STORAGE IN A LI LIMITED INDUSTRIAL DISTRICT LOCATED AT 9270 VALLEY VIEW RD.

NO PUBLIC COMMENT

ADJOURNMENT

Mr. Cox motioned to adjourn the Public Hearing at 5:16 p.m. and begin the Planning Commission meeting, Mr. Westbrooks seconded and all were in favor

-----Close Public Hearing-----

MACEDONIA PLANNING COMMISSION
MARCH 17, 2025
MEETING MINUTES

CALL TO ORDER: Mr. Westbrooks called the meeting to order at approximately 5:18 p.m.

MEMBERS PRESENT:
Planning Commission: Mr. Westbrooks, Mr. Wallenhorst, Mr. Roberts, Mr. Cox, and Ms. Meske
City Planner: Mr. Frantz
City Fire Inspector: Mr. Smith
City Engineer: Mr. Gigliotti
Building Commissioner: Mr. Monaco

APPROVAL OF THE FEBRUARY 10, 2025 PLANNING COMMISSION MEETING MINUTES.
Mr. Cox motioned to approve the minutes as submitted, Mr. Roberts seconded and all were in favor.

Mr. Westbrooks motioned to adjust the agenda, changing the order, Ms. Meske seconded and all were in favor.

PROPOSED SIGNAGE FOR AUDIO NOVA LOCATED AT 640 E. AURORA RD.
Ms. Clark was present. Mr. Frantz made his comments. Mr. Westbrooks motioned to approve the plans with changes, the non-lit dimensional lettering will be provided as requested in Mr. Frantz's memo as well as administrative confirmation of the percentage of coverage of the doors, and find the 3 different types of green acceptable, Mr. Cox seconded and all were in favor.

PROPOSED CONDITIONAL USE APPROVAL TO OPERATE A BUSINESS WITH OUTDOOR STORAGE IN A LIMITED INDUSTRIAL DISTRICT, SITE IMPROVEMENTS, AND SIGNAGE LOCATED AT 9270 VALLEY VIEW RD.
Mr. and Mrs. Kafantaris were present and gave an overview of the proposal. Mr. Frantz made his comments. The outdoor storage was discussed as being trucks and enclosed trailers. Mr. Kafantaris stated that there would not be any scaffolding, and that the aerial truck would be stored at the Cleveland shop and the excavator would be stored inside the building. Mr. Frantz commented that construction equipment could not be stored outside the building. The proposed additional asphalt was discussed and the dimensions were requested along with a sketch of the proposed addition to the parking lot. A fence was discussed along with the landscaping; Ms. Meske made landscaping suggestions. The monument sign was discussed and Mr. Frantz suggested using a commercial sign company for the proposal. Mr. Westbrooks requested for the applicants to return to Planning Commission with more detailed plans.

1) **CONDITIONAL USE**
   Determined to be a non-issue.
2) **SITE IMPROVEMENTS**
   Mr. Westbrooks motioned to continue the site improvement proposal to the May 19, 2025 meeting. Mr. Roberts seconded and all were in favor.
3) **SIGNAGE**
   Mr. Westbrooks motioned to continue the monument sign proposal to the May 19, 2025 meeting. Mr. Roberts seconded and all were in favor.

PROPOSED SIGNAGE FOR GRAINGER LOCATED AT 8211 BAVARIA RD.

Ms. James and Mr. Longo were present. Mr. Frantz made his comments. The brick base of the monument was discussed. Mr. Frantz stated that the temporary signs were not permissible due to size and that only one sign was allowed per the code. Mr. Longo stated that there were 2 entrances to the building warranting 2 signs, stating that traffic would be hard to manage. Mr. Frantz suggested leaving the current signs in place until the new signs are fabricated and installed. Mr. Cox suggested a BZA variance. Mr. Wallenhorst commented that he would like the brick base to remain and use colors to match the building. Mr. Westbrooks stated that the temporary sign could be worked through with the Building Commissioner. Landscaping was discussed; Ms. Meske stated that landscaping was required around the signs. Mr. Westbrooks motioned to approve the signage plans with the modification that there is a brick base to match the building, landscaping around the sign to be approved administratively, and to administratively work out the temporary sign issue. Mr. Wallenhorst seconded, and all were in favor.

Mr. Westbrooks recused himself from the meeting due to a work relationship with the developer and sat in the audience, Mr. Roberts stated that he had recused himself in the past due to a work relationship but the work was done and did not recuse himself. Mr. Cox stated that Coblentz Homes had built his home, and did not recuse himself.
Mr. Frantz stated that there does not appear to be a conflict and asked the applicants if they were okay with proceeding. Mr. Coblentz and Mr. Filipkowski replied "yes".

PROPOSED FINAL APPROVAL FOR VALLEY RESERVE DEVELOPMENT.

Mr. Coblentz and Mr. Philipkowski were present and stated that Coblentz Homes would be the developer and would be responsible for the entryway with landscaping and street lighting. Pulte Homes would be responsible for building the homes, grading, city walks, and any type of landscaping for the homes. Architecture was discussed and Mr. Philipkowski commented that he has been in touch with Ms. Schultz and a meeting has been scheduled. Mr. Frantz made his comments. The scale of the plans was discussed. Mr. Coblentz stated he is proposing final plan approval with the submitted plans at the current meeting. It was determined that Conditional Use was approved by the City Council. Mr. Coblentz stated that the plans show phases but they are hard to see and will be highlighted in future plans. Street trees were discussed as Celebration Maples, Ms. Meske suggested using 2 different species and incorporating Frontier Elm trees along with the Celebration Maple trees. Mr. Frantz stated that the performance bond will need to be submitted. Architecture was discussed and it was determined that it would need to come back to the Planning Commission to be approved as a whole but not per lot. Mr. Wallenhorst questioned the similarity of the houses, and no same two to be placed next to each other. Mr. Philipkowski submitted an exhibit that depicted the change in homes that would be submitted to the Architectural Advisor administratively for each home. Mr. Gigliotti made his comments. The sidewalks were shown as 4 feet and Mr. Gigliotti commented that they need to be 5 feet. Mr. Smith commented that the length of the roads and number of units require a second means of egress and Mr. Coblentz stated that they had proposed a through street and the commission wanted a cul-de-sac and it was approved with the last submittal and asked to see the Fire Inspectors' comments with preliminary approval. Mr. Frantz stated that the road layout as it stands was approved. The mailbox location was discussed and it was determined that it was not shown on the plans and it would need to be identified and approved administratively. Mr. Wallenhorst motioned to approve the final plat for the P.U.D. with the following conditions: any outstanding items from Mr. Frantz and Mr. Gigliotti are addressed, phasing identified on plans, wetlands letters of jurisdictional approval are supplied to the City, landscaping entrance approved as submitted, construction agreement performance bond and maintenance bond are

to be approved before the final plat is signed off on, the covenants and restrictions are reviewed and submitted to the City for approval, sidewalks are to be 5 foot in width, and the storm water management plan be approved by the City Engineer. The entrance signage, location of the mailboxes, architecture, and the street trees in front of the homes are not approved and must return to the Planning Commission for approval. Mr. Cox seconded and all were in favor.

Mr. Westbrooks rejoined the meeting.

PROPOSED NEW BUILDING FOR PEAK NANO LOCATED AT 8854 VALLEY VIEW RD.

Mr. Extine was present and gave an overview of the proposal. Mr. Frantz made his comments. The current outdoor storage was questioned and Mr. Extine stated that it was his understanding that it would be removed. It was determined that the whole Peak Nano Building would be entirely in the City of Macedonia and not in Northfield Center. The south access driveway was discussed as being for future development. The parking, drive apron, and landscaping were discussed and that BZA variances would be needed. Mr. Gigliotti made his comments including that If the property outlined in red on the plan was separated, the access drive would have to extend to Valley View Rd. and the parcel could possibly be land locked. Mr. Gigliotti requested a topographical map and utility plan, also stating that the applicant should be in contact with the railroad and GWD due to the shared drive. The curbs were discussed. Mr. Roberts questioned if the rail traffic would increase significantly and requested the information to be brought to the next meeting. The line of sight from the neighboring houses was discussed and a line-of-sight perspective was requested. Mr. Monaco stated that the equipment coming from Germany would need to be certified to meet the U.S. standards and the Board of Standards has a list of agencies that would certify it. Mr. Wallenhorst motioned to approve the preliminary plans with all of the conditions being met by Mr. Frantz, Mr. Gigliotti, and Ms. Shultz before coming back for final approval, Mr. Cox seconded and all were in favor.

PROPOSED ADDITION TO THE BLACKBURN BUILDING LOCATED 8791 S. FREEWAY DR.

Mr. Seifert and Mr. Blackburn were present and gave an overview of the project. Mr. Frantz made his comments. Mr. Gigliotti made his comments and requested wet land delineations and a truck maneuver analysis to be submitted. Mr. Seifert commented that the building would be sprinkled. Mr. Wallenhorst discussed the architecture, recommending that the addition matches the front of the building. Mr. Wallenhorst motioned to approve the preliminary plan for the new addition with the conditions of Mr. Frantz memo, variances required, Mr. Gigliotti comments and the architectural comments from Ms. Schultz, Mr. Westbrooks seconded and all were in favor.

PROPOSED FINAL SITE PLAN REVIEW FOR A NEW BUILDING FOR NORDONIA LANDSCAPING LOCATED AT 1325 E. HIGHLAND RD.

Mr. Thompson and others were present. Mr. Thompson gave an overview of the proposal. Mr. Frantz made his comments, stating that the retail part of the proposal must return to the Planning Commission with a separate proposal. There was much discussion about the screening and landscaping around the outdoor storage. Protecting the tree roots was discussed and Ms. Meske suggested delineating a tree protection zone as part of the landscaping plan to provide assurance. Fencing was discussed and board on board or shadow box fencing was suggested. Mr. Frantz stated that any dumpster enclosures must be enclosed. Mr. Westbrooks motioned to continue the proposal to the next meeting to address the comments, Mr. Roberts seconded and all were in favor.

ADJOURNMENT:

Mr. Westbrooks motioned to adjourn at approximately 8:51 p.m. Mr. Roberts seconded and all were in favor.